VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a minor, municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The discharge results from the operation of a private boarding school with effluent mainly originating from dormitories and a cafeteria. This permit action includes revised effluent limitations and special conditions in the permit.

1. Facility Name and Address:

Christchurch School STP

49 Seahorse Lane Christchurch, VA 23031

Location: 49 Seahorse Lane, Christchurch, VA

2. SIC Code: 4952, 8211

Permit No. VA0024066

Permit Expiration Date: September 14, 2007

Owner Contact:

Name:

Dennis Gunn

Title: Telephone No.: Operations Director 804/758-2306

Address:

49 Seahorse Lane, Christchurch, VA 23031

5. Application Complete

Date: October 12, 2007

Additional Information Received:

Date: August 07, 2007, October 12, 2007

Permit Drafted By: Jeremy Kazio

Date: August 28, 2007

Revised by Jeremy Kazio:

Date: October 12, 2007 / February 8, 2008

DEQ Regional Office: Piedmont Regional Office

Reviewed By:

Tamira Cohen

Date: August 29, 2007

Ray Jenkins

Date: November 13, 2007/February 13, 2008

6.

	Name:	UT Rappahannock River
	River Mile:	3-XEA000.26
	Basin:	Rappahannock River
	Subbasin:	N/A
	Section:	2
Desciving streem for	Class:	111
Receiving stream for Outfall 001	Special Standards:	None
Outlail 001	1-Day, 10-Year Low Flow:	0
	7-Day, 10-Year Low Flow:	0
	30-Day, 5-Year Low Flow:	0
	Harmonic Mean Flow:	0
	Tidal?	No
	On 303(d) list?	No

	Name:	Rappahannock River
	River Mile:	3-RPP014.50
	Basin:	Rappahannock River
	Subbasin:	N/A
	Section:	1
Receiving stream for	Class:	II
Outfall 002	Special Standards:	а
Outlail 002	1-Day, 10-Year Low Flow:	
	7-Day, 10-Year Low Flow:	Cannot be determined due to
	30-Day, 5-Year Low Flow:	tidal influence.
	Harmonic Mean Flow:	
	Tidal?	Yes
	On 303(d) list?	Yes

Fact Sheet Christchurch School STP Page 2 of 13

7. Operator License Requirements: Class IV

The recommended attendance hours by a licensed operator and the minimum daily hours that the treatment works should be manned by operating staff are contained in the Sewage Collections and Treatment Regulations (SCAT) 9 VAC 25-790-300. A Class IV licensed operator is required for this facility.

8. Reliability Class: Class I

Reliability is a measurement of the ability of a component or system to perform its designated function without failure or interruption of service. The reliability classification is based on the water quality and public health consequences of a component or system failure. The permittee is required to maintain Class I Reliability for this facility.

9. Permit Characterization: () Issuance (X) Reissuance () Revoke & Reissue () Owner Modification () Board Modification () Change of Ownership/Name Effective Date: (X) Municipal SIC Code(s): 4952, 8211 () Industrial SIC Code(s): () POTW (X) PVOTW (X) Private () Federal () State	 (X) Existing Discharge () Proposed Discharge (X) Effluent Limited (X) Water Quality Limited () WET Limit () Interim Limits in Permit () Interim Limits in Other Document (attached) (X) Compliance Schedule Required () Site Specific WQ Criteria () Variance to WQ Standards () Water Effects Ratio (X) Discharge to 303(d) Listed Segment (possible) () Toxics Management Program Required () Toxics Reduction Evaluation () Possible Interstate Effect () Storm Water Management Plan
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10. Wastewater Flow and Treatment:

Table 1

Outfall Number	Wastewater Source	Treatment	Flow
001	Dormitories (toilets, showers, and sinks), restrooms in academic buildings, and cafeteria waste.	Bar screen & comminutor, flow equalization, aeration, clarification, sludge return, chlorination, dechlorination	40,000 gpd (0.040 MGD) design capacity

See Attachment A for a facility diagram.

- 11. Sludge Disposal: Wasted sludge is retained in a holding tank and disposed of by a licensed contract hauler as needed. (See **Attachment B** for sludge hauling route)
- Discharge Location Description: This facility currently discharges to an Unnamed Tributary of the Rappahannock River located at approximate coordinates 37°36'58" N / 76°32'57" W. With the 2008 permit reissuance, the permittee shall be given the option to either continue discharging to the current location and upgrade the facility to meet the limitations listed in Part I.A.2., or relocate the discharge directly to the Rappahannock River at approximate coordinates 37°37'13" N / 76°32'49" W. See **Attachment B** for locations of Outfalls 001 and 002.

Name of USGS topo map:

USGS Saluda 123D (VA) Quadrangle

- Material Storage: Chlorine and dechlorination tablets are stored in a covered shed and in properly sealed containers.
- 14. Ambient Water Quality Information for Outfall 001: Ambient water quality data is not needed because the receiving stream is dry at the theoretical low flows used in developing permit limitations.

 Ambient Water Quality Information for Outfall 002: This facility may choose the option to discharge directly to the Rappahannock River at River Mile 3-RPP014.50. Stream flow data cannot be determined because the Rappahannock River is considered a tidal waterbody (See Attachment D for Flow Frequency Analysis Memorandum by Jennifer V. Palmore, P.G. dated January 29, 2008). Ambient stream data were collected at station ID 3-RPP017.72, located mid-channel and southwest of Towles Point, approximately 3 miles upstream of the proposed discharge. These data were used to determine 90%tile and 10%tile values for pH and temperature, as well as the mean salinity levels required in establishing water quality based effluent limitations. This area of the Rappahannock River was assessed as a Category 5A water during the 2006 305(b)/303(d) assessment cycle.
- 15. Antidegradation Review and Comments:
 The State Water Control Board's Water Or

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect those uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The anti-degradation review begins with a Tier determination. The receiving stream for Outfall 001 (Unnamed Tributary to the Rapphannock River) is considered intermittent, or a dry-ditch and is determined to be a Tier 1 waterbody. This determination is based on the intermittent nature of the stream where beneficial uses cannot be fully attained.

The receiving stream for proposed Outfall 002 (Rappahannock River) is also considered a Tier 1 water due to dissolved oxygen problems. As a result, a new dissolved oxygen limitation has been placed into the 2008 permit reissuance. (See **Attachment D** for Stream Sanitation Analysis conducted and summarized by Jennifer V. Palmore, P.G. date January 9, 2008 and amended January 29, 2008)

- 16. Site Inspection: 13 April 2007 by Jeremy Kazio. See Attachment C.
- 17. Effluent Screening & Limitation Development:

Data submitted with the permit renewal application on all applicable pollutants addressed by the water quality standards (see Attachment D) were reviewed. All pollutants that were reported as less than the test quantification level (QL) at QLs consistent with DEQ requirements are considered to be absent for the purpose of this evaluation. Pollutants that were detected or reported as less than a QL not meeting DEQ requirements were evaluated to determine the need for effluent limitations using PRO's MSTRANTI spreadsheet and STATS 2.0.4. Limitations for ammonia and total residual chlorine (where chlorine is used for disinfection) are always "forced" for sewage discharges. See **Attachment E.**

The following pollutants were detected in the discharge: Arsenic, chromium, copper, lead, nickel, zinc, chloroform, dichlorobromomethane, Beta radioactivity, chlorides, and hydrogen sulfide. Total cyanide was reported as less than a QL not meeting DEQ requirements. However, during the 2008 permit reissuance public notice, the permittee provided a second sample for Cyanide that resulted in a concentration below DEQ required QL of 0.010 mg/L. Please see **Attachment E** for second Cyanide sample and letter requesting that the monitoring requirement for this parameter be removed from the original 2008 draft permit reissuance. See **Attachment E** for MSTRANTI and STATS v2.0.4 printouts.

18. Effluent Limitation Development:

Table 2

PARAMETER	BASIS	DISCHARGE LIMITS			MONITO REQUIRE		
	FOR LIMITS	MO AVG	WE AVG	MIN	MAX	FREQ	SAMP TYPE
Flow ^{(a)(b)(c)}	NA	NL – monito	oring only	NA	NL	1/Day	Estimate
pH ^{(a)(b)(c)}	1	NA	NA	6.0 su	9.0 su	1/Day	Grab
cBOD ₅ (b)	2	10 mg/L (1500 g/d)	15 mg/L (2300 g/d)	NA	NA	1/Month	Grab
BOD ₅ ^{(a)(c)}	4	30 mg/L (4500 g/d)	45 mg/L (6800 g/d)	NA	NA	1/Month	Grab
TSS (b)	2	10 mg/L (1500 g/d)	15 mg/L (2300 g/d)	NA	NA	1/Month	Grab
TSS ^{(a)(c)}	4	30 mg/L (4500 g/d)	45 mg/L (6800 g/d)	NA	NA	1/Month	Grab
TKN (b)	2	3.0 mg/L (450 g/d)	4.5 mg/L (680 g/d)	NA	NA	1/Month	Grab
Ammonia ^(b)	3	1.35 mg/L	1.35 mg/L	NA	NA	1/Month	Grab
Ammonia ^(c)	3	3.8 mg/L	3.8 mg/L	NA	NA	1/Month	Grab
Ammonia ^(a)	3	20.3 mg/L	20.3 mg/L	NA	NA	1/Month	Grab
TRC (a)(b)	3	0.0080mg/L	0.0096 mg/L	NA	NA	1/Day	Grab
TRC (c)	3	0.026 mg/L	0.026 mg/L	NA	NA	1/Day	Grab
Enterococci (c)	1	35 N/100 ml Geo. Mean	NA	NA	NA	2/Month (10am-4pm)	Sterile Grab
Fecal Coliform (c)	1	200 N/100 ml	NA	NA	NL	2/Month (10am-4pm)	Sterile Grab
Dissolved Oxygen (b)(c)	2	NA	NA	5.0 mg/L	NA	1/Day	Grab
Total Recoverable Copper ^(c)	3	0.019 mg/L	0.026 mg/L	NA	NA	1/Month	Grab
Total Recoverable Copper ^(b)	3	0.0041 mg/L	0.0041 mg/L	NA	NA	1/Month	Grab
Total Recoverable Zinc (b)	3	0.040 mg/L	0.040 mg/L	NA	NA	1/Month	Grab

Water Quality Standards	2.	Best Engineer	ring Judgment	(BEJ)		
Water Quality Based Effluent Limitations	4.	ederal Efflue	nt Guidelines f	or Secondary	Treatmo	ent

 ⁽a) Outfall 001 – Interim Limitations and Monitoring Requirements – Existing Outfall 001 (Part I.A.1)
 (b) Outfall 001 – Final Limitations and Monitoring Requirements - Existing Outfall 001 (Part I.A.2)
 (c) Outfall 002 – Final Limitations and Monitoring Requirements - Rappahannock River (Part I.A.3)

• New Limitations for Ammonia, Copper, and Zinc (Additional Information):

A limitation evaluation begins by determining chronic and acute wasteload allocations (WLA's) using the MSTRANTI Excel Spreadsheet. MSTRANTI produces WLA's using data inputs determined by the permit writer and the Virginia Water Quality Standards (9 VAC 25-260 et. seq.). Once determined, the chronic and acute WLA's are entered into the STATS 2.0.4 computer application along with the appropriate quantification level (QL) and at least one data point. The output from the STATS 2.0.4 application will indicate the need for a permit limitation and calculate that limitation if needed. For Zinc and Copper, the test results submitted with the permit application for reissuance were used as data points. For Ammonia, GM 00-2011 requires that a concentration of 9 mg/L be entered into STATS 2.0.4 as a data point in order to force the program to produce a limit for Ammonia if the WLA's are low enough that one is needed.

- 19. Basis for Sludge Use & Disposal Requirements: Not applicable, as this facility does not land apply sludge.
- 20. Antibacksliding: All limitations in the 2008 permit are the same or more stringent than the limitations in the 2002 permit, with an exception: TRC Monthly and Weekly Average concentration limitations. The draft permit expresses these limitations in the correct number of significant digits. The TRC limitations are now expressed in two significant digits whereas the current permit uses one. As the limitations themselves have not changed, merely the expression of those limits, antibacksliding has not been violated.
- 21. Total Residual Chlorine Limitations and Monitoring Requirements Part I.B.1
 These limitations and monitoring are required by the Water Quality Standards, 9 VAC 25-260-170 –
 Bacteria; other waters, and by the Sewage Collection and Treatment Regulations. Also, 40 CFR
 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
- 22. Compliance Schedules

The VPDES Permit Regulation at 9 VAC 25-31-250 allows for schedules that will lead to compliance with the Clean Water Act, the State Water Control Law, and regulations promulgated under them.

- 23. Special Conditions Part I.C:
 - a. Special Condition C.1 95% Capacity Reopener Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 2 for all POTW and PVOTW permits.
 - Special Condition C.2 O&M Manual Requirement
 Rationale: Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment
 Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190 E.
 - c. Special Condition C.3 Licensed Operator Requirement Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.), require licensure of operators.
 - d. Special Condition C.4. Reliability Class
 Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790 for
 all municipal facilities.
 - e. Special Condition C.5 Sludge Use and Disposal Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge us and disposal.

- f. Special Condition C.6. Sludge Reopener Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-220 C 4 for all permits issued to treatment works treating domestic sewage.
- g. Special Condition C.7. Compliance Reporting Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limitation or to compare effluent quality with a numeric criterion. The QL's for Copper and Zinc were calculated as the lesser of 0.4 times the acute waste load allocation or 0.6 times the chronic waste load allocation. The QL for Cyanide was taken from Attachment A and the QL for Dissolved Sulfide is per current agency guidance.

The Compliance Reporting condition also establishes protocols for calculation of reported values. Significant digits guidance (Part d.) was added in accordance with GM06-2016.

- h. Special Condition C.8 Materials Handling/Storage Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.
- Special Condition C. 9—Indirect Dischargers
 Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 for POTWs and
 PVOTWs that receive waste from someone other than the owner of the treatment works.
- j. Special Condition C. 10 CTO, CTC Requirement Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.
- k. Special Condition C. 11 –Reopeners Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.
- I. Special Condition C. 12 Water Quality Criteria Reopener Rationale: VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria
- m. Special Condition C. 13. Water Quality Criteria Monitoring for Radionuclides Rationale: The Attachment A form presented to the DEQ with the application for reissuance of this permit included improper testing and results for Radionuclides. This special condition has been added as a means of obtaining results of testing for these criteria within three months of this permit's effective reissuance date.
- 24. Part II, Conditions Applicable to All VPDES Permits The VPDES Permit Regulation at 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

25.

Paramete	er Changed	Effluent Li	mits Changed	Requirement Changed		Reason for Change	Date	
- urumote	or onunged	From	То	From	То	Reason for Change	Date	
Amı	monia	20.3 mg/L	NC ^(a) 1.35 mg/L ^(b) 3.8 mg/L ^(c)	1/month Grab	NC	Limitations were determined to be required for these parameters. See		
Total Reco	overable Zinc		0.040 mg/L ^(b)		1/Month Grab	Part 18 of this fact sheet for additional information concerning		
Total Re	ecoverable		0.0041 mg/L ^(b)		1/Month	limitation development procedures.		
Co	pper		0.026 mg/L ^(c)		Grab			
Dissolve	ed Sulfide		NL ^{(a)(b)(c)}		1/6 Months Grab	See Item 29 b.(6) of this fact sheet for more information.		
TRC	Monthly Average	0.008 mg/L	0.026 mg/L ^(c)	1/Day	NC (c)	Reevaluated in accordance with possible Outfall relocation. Please	1/08	
	Weekly Average	0.009 mg/L	0.026 mg/L ^(c)	1/Day	NC .	see Item 28.b.(4) of this fact sheet for more information.	1700	
TRC	Monthly Average	0.008 mg/L	0.0080 mg/L ^{(a)(b)}	4/0	NC ^{(a)(b)}	Concentration Limitations have been changed in accordance with GM 06-2016 addressing significant digits.		
INC	Weekly Average	0.009 mg/L	0.0096 mg/L ^{(a)(b)}	1/Day	NC (w)(w)			
	Monthly		3.0 mg/L ^(b)			This limitation was recommended in the Stream Sanitation Memorandum by Jennifer V. Palmore, P.G. dated		
	Average		450 g/d ^(b)					
TKN	Weekly Average		4.5 mg/L ^(b)			1/Month Grab	January 9, 2008 and amended January 29, 2008. (See Attachment D and Item 28.b.(4) of	
	/ Wordings		680 g/d ^(b)			this fact sheet for more information.)		
	Monthly	30 mg/L	10 mg/L ^(b)			This limitation was recommended in the Stream Sanitation Memorandum	1/08	
TSS	Average	4.5 kg/d	1500 g/d ^(b)	1/month Grab	NC (a)(b)(c)	by Jennifer V. Palmore, P.G. dated January 9, 2008 and amended January 29, 2008. (See		
	Weekly	45 mg/L	15 mg/L ^(b)	1		Attachment D and Item 29.b.(4) of		
	Average	6.8 kg/d	2300 g/d ^(b)	1		this fact sheet for more information.)		
	Monthly	30 mg/L	NC (a)(c)					
TOO	Average	4.5 kg/d	4500 g/d ^{(a)(c)}	1/month	(2)/b)(c)	Loading limitations have been		
TSS	Weekly	45 mg/L	NC (a)(c)	Grab	NC (a)(b)(c)	changed in accordance with GM 06- 2016 addressing significant digits.		
	Average	6.8 kg/d	6800 g/d ^{(a)(c)}	1		g ogau		
Monthly Average cBOD ₅ ^(b) Weekly			10 mg/L ^(b)			This limitation was recommended in		
	Average		1500 g/d ^(b)			the Stream Sanitation Memorandum		
			15 mg/L ^(b)		1/month Grab	by Jennifer V. Palmore, P.G. dated January 9, 2008 and amended January 29, 2008. (See		
	Average		2300 g/d ^(b)			Attachment D and Item 29.b.(4) of this fact sheet for more information.)		
		30 mg/L	NC (a)(c)				1	

Paramete	r Changed	Effluent Lir	nits Changed		nitoring ent Changed	December Change	D-4-
raramete	Onangeu	From	То	From	То	Reason for Change	Date
	Monthly	30 mg/L	NC (a)(c)			Looding limitations have been	
BOD ₅ (a)(c)	Average	4.5 kg/d	4500 g/d ^{(a)(c)}	1/month	NC (a)(c)	Loading limitations have been changed in accordance with	
	Weekly	45 mg/L	NC ^{(a)(c)}	Grab	140	guidance memo #06-2016	
	Average	6.8 kg/d	6800 g/d ^{(a)(c)}			addressing significant digits.	
Entero	cocci ^(c)		35 N/100 mL (Geometric Mean)		2/Month Sterile Grab	Guidance memo #03-2007 augmented the fecal coliform criteria with the addition of Enterococci criteria as the standard for proof of disinfection when the discharge is to saltwater or transition zones.	
			200 N/100 mL ^(c)		2/Month Sterile Grab	In accordance with current agency guidance (the VPDES Permit Manual), permits are to continue to limit fecal coliform with an effluent limit of 200 per 100 milliliters, applied as a monthly average. The fecal coliform monitoring frequency has also been changed in accordance with current agency guidance.	
Fecal Coliform		200 N/100 mL (Geometric Mean)	(a)(b)	1/Month Sterile Grab	(a)(b)	The fecal coliform limitation applied to Outfall 001 had been placed in the 2003 permit reissuance because this outfall had been treated as though it were a discharge directly to the Rappahannock River, which is considered shellfish waters. Due to the reevaluation of this facility's existing outfall for the 2008 permit reissuance, Outfall 001 has been determined to discharge to a freshwater receiving stream, which is not considered shellfish waters. Therefore, the fecal coliform limitation shall only apply to Alternative Outfall 002 if the permittee chooses to relocate the discharge to the Rappahannock River.	

⁽a) Applies to Existing Outfall 001 – Interim Limitations (Part I.A.1)

NC = No Change

⁽b) Applies to Existing Outfall 001 - Final Limitations (Part I.A.2)

⁽c) Applies to Proposed Outfall 002 – Final Limitations (Part I.A.3)

Table 3 (cont.): Permit Processing Change Sheet (Special Conditions)

From	То	Special Condition Changed	Reason fo	or Change	Date	
Cover Page	Cover Page	Facility Location, Receiving Stream information	The application for 2008 reissuar will now be used as the facility lost stream is no longer assigned spespecial standard being repealed Water Quality Standards. An alte Rappahannock River is being increissuance, so receiving stream ithe cover page accordingly.	cation. The current receiving call standard NEW-16 due to that in the most current version of the rnative option to discharge to the cluded with the 2008 permit		
Part I.A.1.a	Part I.A.1.a) Footnote (1), Part I.A.2.a) Footnote (1), Part I.A.3.a) Footnote (1)	Design Flow	Changed to reflect current agenc	Changed to reflect current agency guidance.		
	Part I.A.1.a) Footnote (2), Part I.A.2.a) Footnote (2), Part I.A.3.a) Footnote (2)	Significant digits	New, reflects current agency guid	New, reflects current agency guidance.		
	Part I.A.1.a) Footnote (3), Part I.A.2.a) Footnote (3), Part I.A.3.a) Footnote (3)	Dissolved Sulfide Monitoring Compliance Reporting	New, reflects interim agency guidance regarding Dissolved Sulfide monitoring.		1/08	
	Part I.A.1.a) Footnote (4), Part I.A.2.a) Footnote (4), Part I.A.3.a) Footnote (4)	Reporting Schedule for Dissolved Sulfide	New, reflects interim agency guid monitoring.	dance regarding Dissolved Sulfide		
Part I.A.2.d	Part I.A.1.b) Part I.A.2.b) Part I.A.3.b)	Discharge of floating solids/foam	No changes			
	Part I.A.1.c) Part I.A.2.c) Part I.A.3.c)	Sample location	New, reflects current agency poli	су	1/08	
	Part I.A.1.d) Part I.A.2.d) Part I.A.3.d)	TRC Requirements	New, reflects current agency policy		1/08	
Part I.A.2.c	Part I.A.1.e) Part I.A.2.e) Part I.A.3.e)	85% Removal for BOD ₅ & TSS	No changes for Part I.A.1.e) and I.A.3.e) Part I.A.2.e) has BOD₅ changed to cBOD₅ per recommendation in Stream Sanitation Memorandum (Attachment D)		1/08	
Part I.B	Part I.B.1.a)	Total Residual Chlorine Limitations and Monitoring Requirements Applying to the Contact Tank	The minimum chlorine limit has changed from 1.5 mg/L to 1.0 mg/L to reflect discharge to a freshwater receiving stream. A slight change in formatting has been made for orderliness A slight change in formatting	Revised to reflect current agency guidance; the bacteria standard has changed with the addition of E.Coli and Enterococci. The minimum TRC limit of 0.60 mg/L from the outlet of the chlorination tank	1/08	
	Part I.B.1.b)	Schedule of Compliance	has been made for orderliness.			

From	То	Special Condition Changed	Reason for Change	Date
Part I.C.1	Part I.C.1	95% Capacity Notification	No changes	1/08
Part I.C.2	Part I.C.2	O & M Manual	Revised to reflect current agency guidance	1/08
Part I.C.3	Part I.C.3	Licensed Operator	No changes	1/08
Part I.C.5	Part I.C.4	Reliability Class	No changes	1/08
Part I.C.6	Part I.C.5	Sludge Use and Disposal	No changes	1/08
Part I.C.7	Part I.C.6	Sludge Reopener	No changes	1/08
Part I.C.8	Part I.C.7	Compliance Reporting	Revised to reflect current agency guidance	1/08
	Part I.C.8	Materials Handling/Storage	New, reflects current agency guidance	1/08
	Part I.C.9	Indirect Dischargers	New, reflects current agency guidance	1/08
	Part I.C.10	CTC, CTO Requirement	New, reflects current agency guidance	1/08
Part I.C.4	Part I.C.11	Reopeners	Revised to reflect current agency guidance	1/08
	Part I.C.12	Water Quality Criteria Reopener	New, reflects current agency guidance	1/08
-	Part I.C.13	Water Quality Criteria Monitoring (for Radionuclides)	See Item 28 b.(2) "Staff Comments"	1/08
Part I.A.1.b	(deleted)	Compliance Reporting Reference	No longer required per current agency guidance (Permit Manual)	1/08
Part I.C.9	(deleted)	Closure Plan	Closure of treatment works is covered by the SCAT regulations, therefore the Closure Plan requirement has been removed.	1/08

- 26. Variances/Alternate Limits or Conditions: None.
- 27. Public Notice Information required by 9 VAC 25-31-280 B:

Comment period: Start Date: May 30, 2008

End Date: June 30, 2008

Published Dates: May 29, 2008 & June 5, 2008

All pertinent information is on file and may be inspected or copied by contacting Jeremy Kazio at:

Virginia Department of Environmental Quality (DEQ)

Piedmont Regional Office

4949-A Cox Road

Glen Allen, Virginia 23060-6296

Telephone Number 804/527-5044 Facsimile Number 804/527-5106 Email jskazio@deq.virginia.gov

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within the comment period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing, and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

Following the comment period, the Board will make a determination regarding the proposed reissuance. That determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

28. 303(d) Listed Segments (TMDL) - Alternative Outfall 002 Rappahannock River Discharge

This facility may discharge directly to the Rappahannock River. The stream segment receiving the effluent was assessed as a Category 5A water during the 2006 305(b)/303(d) assessment cycle. The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed for the Aquatic Life Use in 1998 due to dissolved oxygen violations and nutrient overenrichment. The tidal Chesapeake Bay water quality standards were implemented during the 2006 cycle; the mesohaline portion of the Rappahannock failed the Open Water Subuse's summer dissolved oxygen criteria and the Shallow Water Subuse's submerged aquatic vegetation acreage criteria. A TMDL has not been prepared or approved for any of the above segments. The 2008 permit reissuance has a minimum dissolved oxygen limitation of 5.0 mg/L and, in accordance with 9 VAC 25-260-185 A, this limitation should provide adequate protection of the Open Water Criteria (See Attachment D for ambient stream data and mean salinity levels). The 2008 reissuance also limits BOD₅/cBOD₅ to levels that are not expected to cause further detriment to the dissolved oxygen levels in the Rappahannock River. The permit contains a re-opener condition that may allow these limits to be modified, in compliance with section 303(d)(4) of the Act, once a TMDL is approved.

29. Additional Comments:

a. Previous Board Action: A Special Order was issued by the Board on June 2, 1978 requiring the facility to comply with secondary effluent limitations. The requirements of the Special Order were satisfied at the time of the June 30, 1987 permit reissuance period. As a result of failure to comply with permit effluent limitations, a Consent Special Order was issued on August 13, 1991, requiring the facility to submit plans, specifications, and a schedule for the upgrade of the wastewater treatment system. On September 27, 1993 a Certificate to Construct was issued, and on December 1, 1994 a Certificate to Operate was issued for the upgraded wastewater treatment system. On September 19, 1994, the Consent Special Order was cancelled.

b. Staff Comments:

(1) The values reported for Beta Particle and Photon Activity are in units of concentration; i.e. pCi/Liter. The water quality standard for this parameter is an exposure standard, expressed in mrem/year. The EPA has established this same standard for community potable water systems. Federal Regulation states that compliance with the potable water standard may be assumed if the average annual concentration of Beta Particle and Photon Activity is less than 50 pCi/L and the average annual concentrations of tritium and strontium-90 are less than 20,000 pCi/L and 8 pCi/L, respectively.

In this case, the permittee had not submitted test results for either Strontium-90 or Tritium, so the above assumption cannot be made due to lack of data. Therefore, testing for Tritium and Strontium-90 have been requested with the 2008 permit reissuance. Please note that the permittee listed a concentration for Strontium-90 on the Attachment A form submitted with the application for this permit reissuance. However, the test method used to attain this concentration is for metals, so the concentration can be assumed to be for Strontium metal and not the Strontium-90 isotope. Proper test methods for both Tritium and Strontium-90 have been requested in the 2008 permit reissuance.

- (2) Financial Assurance does not apply to facilities with a design flow greater than or equal to 40,000 gallons per day.
- (3) The permit will be reissued post expiration date due to late application submittal and insufficient data. After draft development by the permit writer and first time peer review, it was realized by the reviewer on August 28, 2007 that the QL's reported by the permittee's laboratory for metals were much higher than those supposed to be reported on the Attachment A form. Staff requested resampling on August 29, 2007 for Cadmium, Chromium, Lead, Nickel, Selenium, Silver, and Mercury using target QL's of the lesser of

0.4XWLA_a or 0.6XWLA_c for each parameter. Retest results were received on October 12, 2007. The QL's reported by the laboratory for Silver and Cadmium were still too high, but the lab claimed that they were not capable of using any lesser QL's than reported. Staff requested that the Method Detection Limit (MDL) be reported and also to report if either Silver or Cadmium were reported at that level. On October 22, 2007, the laboratory faxed a copy of the results indicating that neither metals were detected at the MDL. For the purposes of this permit reissuance, Silver and Cadmium are considered absent from this facility's effluent.

In addition, a reevaluation of the permitting process for this facility has been implemented during the 2008 permit reissuance. The receiving stream to which the permittee currently discharges is considered a "dry ditch". The conventional pollutant and ammonia limitations in past permits were developed as if the discharge were directly to the Rappahannock River. For the 2008 permit reissuance, the unnamed tributary was reevaluated (See Attachment D Stream Sanitation Analysis Christchurch School STP - VA0024066 by Jennifer V. Palmore, P.G. dated January 9, 2008 amended January 29, 2008) and permit limitations were developed in accordance with the proper receiving stream data and analysis. The 2008 permit reissuance also contains an option for the permittee to either accept the more stringent limitations and upgrade the facility, or pipe the discharge directly to the Rappahannock River at the confluence of the unnamed tributary to which the permittee currenly discharges and the Rappahannock River. An email received from Keith Skiles dated January 25, 2008 (See Attachment F) states that if the permittee chooses the option to relocate the outfall to the Rappahannock River, the shellfish classification will not change so long as the outfall is located as specified above. If the proposed outfall is relocated upstream, downstream, or toward the channel of the river, the shellfish classification would also be relocated to accommodate the outfall, which would require further processing to address shellfish buffer zone requirements of 9 VAC 25-260-270 of the Water Quality Standards.

- (5) Christchurch School's treatment facility is an existing discharger with a design capacity of 40,000 gallons per day (and is not planning on expanding), and was issued a CTO before July 1, 2005. Therefore, this facility is not considered a significant discharger under the Code of Virginia § 62.1-44.19:19:14.C.5 for existing dischargers, and consequently is not subject to coverage under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820).
- (6) Monitoring only is required for this parameter. During the permit application process, total sulfides were reported in the effluent. Through a conversion method, these data were initially used in an attempt to assess potential hydrogen sulfide (H₂S) levels. However, the accuracy and precision of using total sulfide results for developing limits for H₂S have recently come under question. According to Standard Methods, the unionized H₂S "can be calculated from the concentration of dissolved sulfide, the sample pH, and the conditional ionization constant of H₂S." Based on the above, it now appears to be more appropriate to specify that results be reported as dissolved sulfide. To provide data to evaluate the potential presence of H₂S and need for a limit, dissolved sulfide monitoring is required once per six months by grab sample for this permit reissuance.

c. Public Comment:

During the 2008 permit reissuance Public Comment period (May 30, 2008 – June 30, 2008) the permittee requested that the monitoring requirement for Cyanide (1/6 Months, monitoring and reporting only) be removed from the original 2008 draft permit. The permittee provided the results of a second sampling for Cyanide. The test results showed that Cyanide exists at a concentration below the QL that DEQ considers the pollutant to be

absent (0.010 mg/L). Therefore, the monitoring requirement for Cyanide has been removed from the permit.

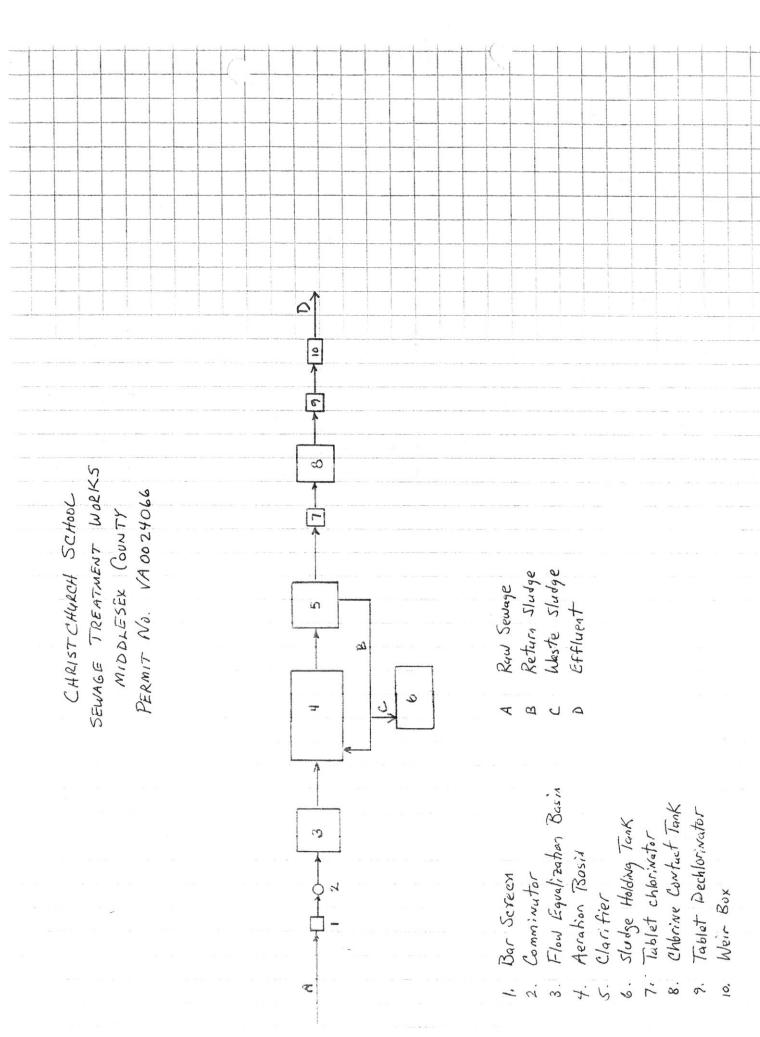
A comment was received by email opposing the 2008 reissuance of this permit. A
response was returned by email, and no further comments were received.

30. Summary of attachments to this Fact Sheet:

Attachment A	Facility Diagram
Attachment B	Topographic Map, Aerial Photo,and Sludge Hauling Route
Attachment C	Site Inspection Report
Attachment D	Flow Frequency Analysis, Stream Sanitation Memorandum, Ambient Stream Data, and Effluent Information
Attachment E	Effluent Limitation Analysis, MSTRANTI Data Source Report
Attachment F	Correspondence with VDH / DSS

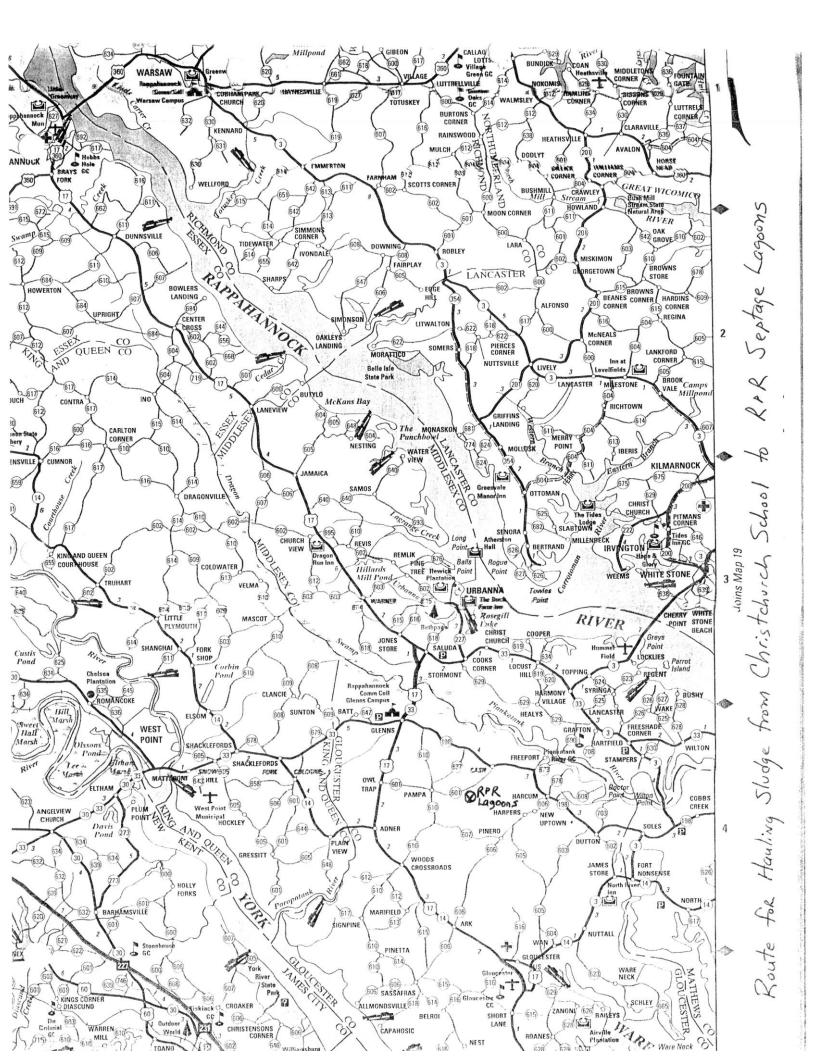
Attachment A

Facility Diagram



Attachment B

Topographic Map, Aerial Photo, and Sludge Hauling Route



Attachment C

Site Inspection Report

DEPARTMENT OF ENVIRONMENTAL QUALITY

Piedmont Regional Office

4949-A Cox Rd Glen Allen, VA 23060

(804) 527-5020

SUBJECT:

Site Visit

TO:

File

FROM:

Jeremy Kazio, PRO

DATE:

13 April 2007

COPIES:

Curt Linderman, Jennifer Palmore,

Facility Name: Christchurch School STP Permit Number: VA0024066

On April 13, 2007, I met with Mr. James Bristow, Treatment Plant Operator, for a site visit of the facility.

The facility is located in Christchurch, VA on Route 33 between Saluda and Locust Hill, Middlesex County. The STP treats wastewater produced by students and faculty at a private school which houses some students and faculty in dormitories and small apartments. A large cafeteria also contributes flow to the treatment plant.

Upon arrival at approximately 11 a.m., Mr. Dennis Gunn, Operations Supervisor, briefly met me outside of the school main office. Mr. Gunn immediately called Mr. Bristow to our location and Mr. Bristow drove me on a golf cart to the location of the STP.

An initial scan of the package plant revealed a somewhat older characterization of the treatment plant's structure. Paint was peeling and much of the metal was rusted, though the plant was not degraded enough to prevent efficient operation. The operator's "laboratory consisted of a small shed". A larger shed housed the chlorination and dechlorination tablets (in enclosed buckets), as well as various tools.

Pretreatment included the use of a bar screen and comminutor, both of which had minimal build-up of solids. An equalization basin followed, then basins. The mixed liquor in the aeration basins appeared to have the color and consistency associated with a healthy treatment system, though there were spots of foam produced from oil/grease floating around the mixed liquor surface rim. The clarifier also appeared to have a good sludge blanket, with nicely sized and uniformly distributed floc. Disinfection is by chlorine tablet self feeders that must be regularly restocked. Mr. Bristow noted that the chlorine contact tank had been cleaned only days before my arrival, and covered with small-mesh chicken-wire in order to keep vegetation and animal debris from falling into the wastewater during chlorine contact. Dechlorination occurred at the end of the contact tank and consisted of a similar tablet self-feeding mechanism as chlorination.

Mr. Bristow was extremely accommodating and answered every question that I had thoroughly.

Fact Sheet Christchurch School STP	
Attachment D	
Flow Frequency Analysis, Stream Sanitation Memorandum, Ambient Stream Data, Effluent Testing Dat	a, DMR Data

DEPARTMENT OF ENVIRONMENTAL QUALITY Piedmont Regional Office

4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT:

Flow Frequency and 303(d) Status Determination

Christchurch School - VA0024066

TO:

Jeremy Kazio

FROM:

Jennifer V. Palmore

DATE:

May 4, 2007

COPIES:

File

The Christchurch School's sewage treatment plant discharges to an unnamed tributary of the Rappahannock near Christchurch, VA. The discharge is located at rivermile 3-XEA000.26. Stream flow frequencies and the current 303(d) status have been requested at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

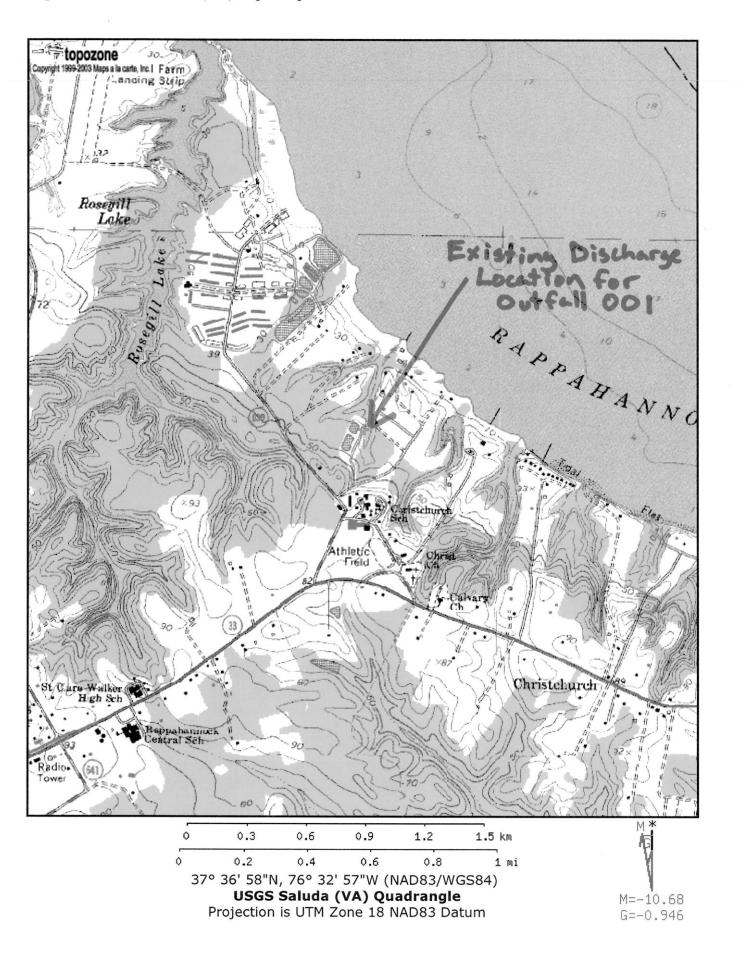
The USGS Saluda Quadrangle shows the receiving stream to be a dry ditch. The flow frequencies for dry ditches and intermittent streams are listed below:

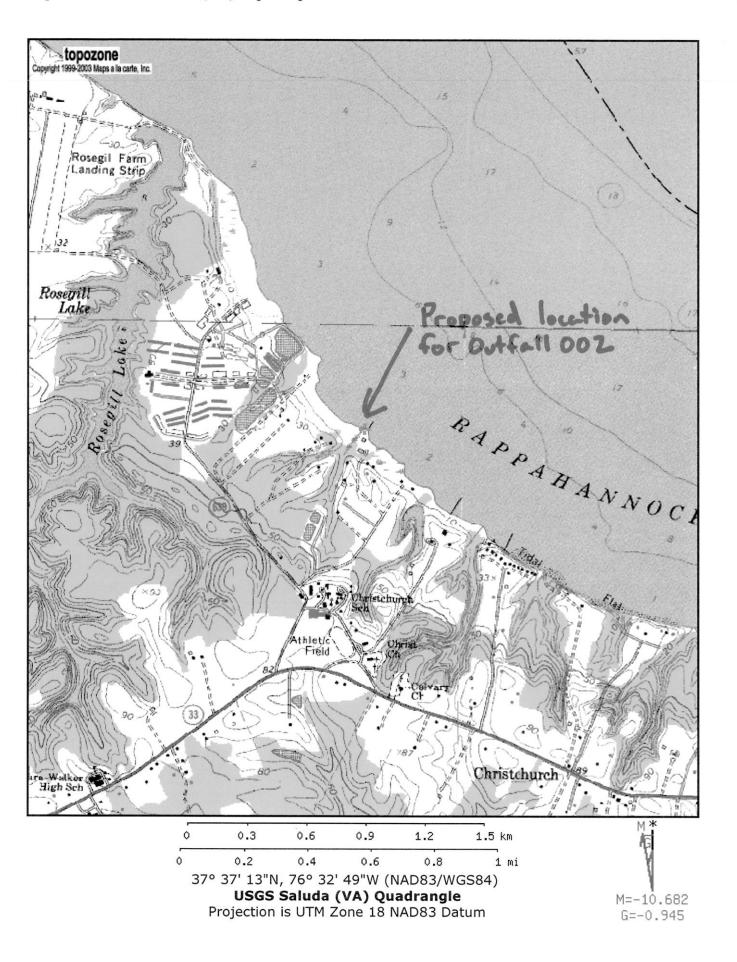
Outfall 001.

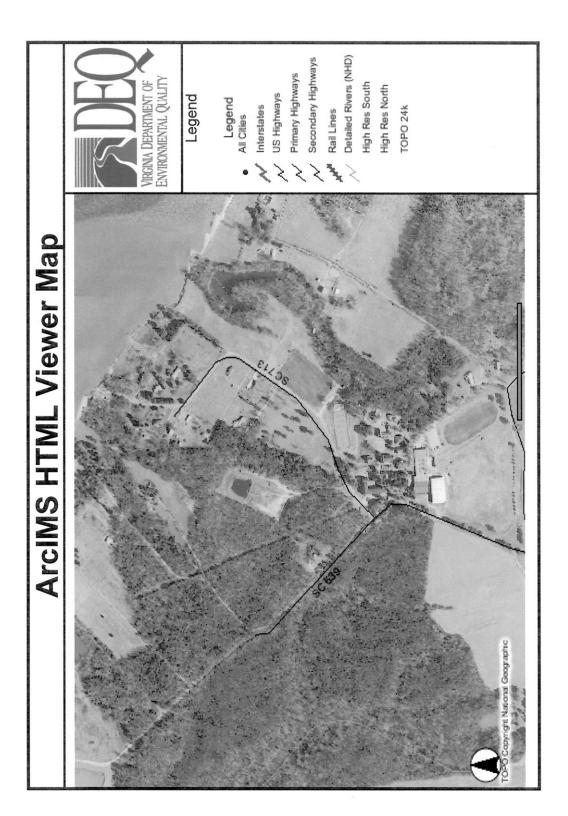
righ Flow 1Q10 = 0.0 cfs righ Flow 7Q10 = 0.0 cfs righ Flow 30Q10 = 0.0 cfs righ Flow 30Q10 = 0.0 cfs righ Average = 0.0 cfs

The unnamed tributary was not assessed in the 2006 305(b)/303(d) Integrated Report.

If you have any questions concerning this analysis or need additional information, please let me know.







DEPARTMENT OF ENVIRONMENTAL QUALITY Piedmont Regional Office 4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT:

Flow Frequency Determination/303(d) Status

Christchurch School STP - VA0024066

TO:

Jeremy Kazio

FROM:

Jennifer V. Palmore, P.G.

DATE:

January 29, 2008

COPIES:

File

The Christchurch School STP is currently permitted to discharge to an unnamed tributary of the Rappahannock River at Christchurch, VA. Flow frequencies have been requested for three possible outfall locations at the mainstem Rappahannock River for use by the permit writer in developing effluent limitations for the VPDES permit.

The Rappahannock River is tidally influenced at the proposed discharge points. Flow frequencies cannot be determined for tidal waters. At these locations the river is relatively shallow (the depth of the river remains less than 3 feet as far as 0.25 miles towards the channel as shown on the USGS Saluda Quadrangle), therefore standard dilution ratios are recommended to evaluate the effluent's impact on the water body.

The receiving stream was assessed as a Category 5A water during the 2006 305(b)/303(d) assessment cycle. The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed for the Aquatic Life Use in 1998 due to dissolved oxygen violations and nutrient overenrichment. The tidal Chesapeake Bay water quality standards were implemented during the 2006 cycle; the mesohaline portion of the Rappahannock failed the Open Water Subuse's summer dissolved oxygen criteria and the Shallow Water Subuse's submerged aquatic vegetation acreage criteria.

In addition, the mesohaline portion of the mainstem Rappahannock is impaired due to benthic alteration as based on the Chesapeake Bay Benthic Index of Biological Integrity.

The Rappahannock River is impaired for the Fish Consumption Use due to a 12/13/2004 VDH fish consumption advisory for PCBs in American eel, blue catfish, carp, channel catfish, croaker, gizzard shad, and anadromous (coastal) striped bass.

A shellfish prohibition is in effect for this area due to the existing Christchurch School STP outfall, therefore the Shellfish Consumption Use is considered to be removed. The Wildlife Use was not assessed and the Recreation Use was considered to be fully supporting.

If you have any questions concerning this analysis, please let me know.

Fact Sheets for Category 5 Waters

RIVER BASIN:

Rappahannock River Basin

STREAM NAME:

Rappahannock River

HYDROLOGIC UNIT:

02080104

TMDL ID:

VAP-E22E-02

NEW TMDL ID:

10126

ASSESSMENT CATEGORY:

TMDL DUE DATE:

2018

SEGMENT SIZE:

- Sq. Mi.

INITIAL LISTING:

2006

UPSTREAM LIMIT:

DESCRIPTION:

Mesohaline Boundary

RIVER MILE:

DOWNSTREAM LIMIT:

DESCRIPTION:

Mouth at Chesapeake Bay

RIVER MILE:

The mesohaline mainstem of the Rappahannock River

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Estuarine Bioassessments

In addition, in 2004 the mesohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity. The impairment was attributed to low oxygen and the benthic impairment was treated as a confirmation of the impairment. The mainstem remains impaired in the 2006 cycle, however due to guidance changes the segment will now be 303(d) listed for estuarine bioassessments.

IMPAIRMENT SOURCE: Unknown

Source is considered unknown, but is believed to be caused by low dissolved oxygen

RECOMMENDATION:

Problem Characterization

Fact Sheets for Category 5 Waters

RIVER BASIN:

Rappahannock River Basin

STREAM NAME:

Rappahannock River

HYDROLOGIC UNIT:

02080104

TMDL ID:

VAN-E20E-03

NEW TMDL ID:

10070

ASSESSMENT CATEGORY:

TMDL DUE DATE:

2018

SEGMENT SIZE:

~123 - Miles

INITIAL LISTING:

2004

UPSTREAM LIMIT:

DESCRIPTION:

I-95 bridge

RIVER MILE:

112

DOWNSTREAM LIMIT:

DESCRIPTION:

Mouth

RIVER MILE:

0.00

The Rappahannock River from the I-95 bridge downstream to the mouth near Stingray Point, including its tributaries Hazel Run up the I-95 bridge crossing and Claiborne Run up to the Route 1 bridge crossing.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Not Supporting

IMPAIRMENT CAUSE: PCBs

The segment is under a 12/13/2004 VDH fish consumption advisory for PCBs in American eel, blue catfish, carp, channel catfish, croaker, gizzard shad, anadromous (coastal) striped bass.

IMPAIRMENT SOURCE:

Source of the PCBs is considered unknown.

RECOMMENDATION:

Problem Characterization

Fact Sheets for Category 5 Waters

RIVER BASIN:

Rappahannock River Basin

STREAM NAME:

Rappahannock River

HYDROLOGIC UNIT:

02080104

TMDL ID:

VAP-E22E-01

NEW TMDL ID:

01776/10071

ASSESSMENT CATEGORY:

5A

TMDL DUE DATE:

2010

SEGMENT SIZE:

126.34 - Sq. Mi.

INITIAL LISTING:

1998

UPSTREAM LIMIT:

DESCRIPTION:

Oligohaline/mesohaline boundary

RIVER MILE:

~49.20

DOWNSTREAM LIMIT:

DESCRIPTION:

Mouth at Chesapeake Bay

RIVER MILE:

0.00

The mesohaline Rappahannock River and tidal tributaries.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Open Water Summer - Not Supporting, Deep Water Use - Not Supporting, Shallow Water Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Aquatic Plants (SAV)

The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed in 1998 by DEQ due to dissolved oxygen violations and nutrient overenrichment. The EPA extended the segment upstream to the confluence with Totuskey Creek . In the 2004 cycle dissolved oxygen violations were noted in deepwater and deep channel stations downstream of the confluence with Lancaster Creek (Morattico), which is further downstream.

The new Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. The mesohaline portion of the Rappahannock failed both the open water summer dissolved oxygen criteria and the SAV acreage standards during the 2006 cycle. Also, applicable areas failed the deep water applicable dissolved oxygen criteria in 2006.

IMPAIRMENT SOURCE: Point Source, Nonpoint Source

Tributary strategy has been developed.

RECOMMENDATION:

Problem Characterization

DEPARTMENT OF ENVIRONMENTAL QUALITY Piedmont Regional Office 4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT:

Stream Sanitation Analysis

Christchurch School STP - VA0024066

TO:

Jeremy Kazio

FROM:

Jennifer V. Palmore, P.G.

DATE: AMENDED: January 9, 2008 January 29, 2008

COPIES:

File, Curt Linderman, Mark Alling

A request for a stream sanitation analysis for the Christchurch School's sewage treatment plant was received on December 12, 2007. The plant serves approximately 225 students and 75 staff for a private K-12 school located in Christchurch, Virginia. The discharge is located on an unnamed tributary to the Rappahannock River at river mile 3-XEA000.26. The facility has been operating at a design flow of 0.04 MGD.

Background:

The facility was originally a sewage lagoon system and was permitted with equivalent-to-secondary permit limits. In previous permit cycles, the lagoon was closed and the facility was upgraded, however the discharge was not remodeled. The files indicate that the facility received technology-based permit limits for the conventional parameters because the receiving stream was mistakenly considered to be the Rappahannock River, not the unnamed tributary.

Because the facility had not been modeled, Jeremy Kazio and I performed a stream inspection on Friday January 4, 2008. We walked from the outfall downstream to the Rappahannock River. The receiving stream was confirmed to be an unnamed tributary. Downstream of the outfall, the stream channel is well-defined, slightly meandering, with an irregularly shaped cross-section, and has a sandy, rippled bottom with steady flow. However, approximately 0.2 miles downstream the channel enters a large marsh area that is believed to be formed by the reshaping of the downstream beach. It is most likely due to the formation of a sand dune due to the deposition of sand on the upstream side of the Christchurch School's pier. There did not appear to be a tidal influence in the marsh under normal tides. Although there is a defined outlet to the marsh approximately 50 yards further east adjacent to the pier, the Regional Model 4.1 cannot model the area within the marsh itself.

As discussed in my May 4, 2007 flow frequency memorandum, the receiving stream is shown to be a dry ditch on the USGS Saluda quadrangle. As such, the receiving stream has historically been considered a Tier 1 water. In addition, there was evidence of past illegal dumping along the stream, including a rusted metal 55 gallon drum, and an abandoned automobile. A Tier 1 determination is still appropriate for the stream.

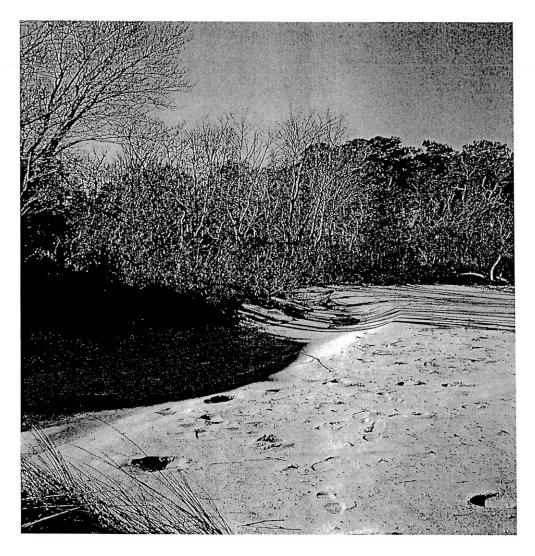
Photos showing the stream channel and marsh are attached. In addition, an aerial photograph showing the discharge point and receiving stream is attached.



1. Stream channel below outfall



2. Stream channel below outfall



3. Picture upstream from beach at Rappahannock River showing stream outlet across the beach and the marsh behind the dunes



4. Aerial Photograph showing discharge location and receiving stream VBMP High-Resolution Imagery

Recommendations:

Because the stream is considered unmodelable using Regional Model 4.1, it is recommended that effluent limits for this discharge be established based upon best professional judgment in accordance with A.J. Anthony's Swamp Limits memorandum (1987), which recommends the following limits, regardless of flow:

cBOD₅:

10 mg/L

Total Suspended Solids:

10 mg/L

Total Kjeldahl Nitrogen:

3.0 mg/L

In addition, due to the free-flowing nature of the receiving stream directly below the outfall, I recommend that the permit include a minimum dissolved oxygen limit of 5.0 mg/L.

Amended January 29, 2008:

An additional stream sanitation analysis was received on January 17, 2008. Due to the cost of upgrading the wastewater treatment plant to meet the limits recommended above as well as the draft effluent limit for ammonia, the permit will also include effluent limits for the mainstem of the Rappahannock River. The facility will then be able to evaluate whether they will upgrade the plant and discharge to the current unnamed tributary, or relocate the outfall to the river. Three possible locations along the Christchurch School property were considered

The applicable Chesapeake Bay Water Quality dissolved oxygen standards at these discharge points are based on the Open Water Subuse: 30 day mean of 5 mg/L, 7 day mean of 4 mg/L and an instantaneous minimum of either 4.3 mg/L or 3.2 mg/L depending on whether the water temperature is above or below 29°C, respectively. The Rappahannock River is currently not meeting the 30-day dissolved oxygen criteria, therefore a permit limit for dissolved oxygen of 5.0 mg/L minimum is recommended. Based on best professional judgment, technology-based limits for secondary treatment are appropriate.

Due to the dissolved oxygen problems within the Rappahannock River, the mainstem has historically been considered a Tier 1 water.

If you have any questions or need any additional information, please do not hesitate to contact me.

bient Stream appahannelk Station ID Collection Date Depth Desc Depth | Temp Celcius | Field Ph | Do Probe | Salinity | Do Winkler 3-RPP017.72 2/7/1985 S 1.00 50 7.30 13.80 15.70 13.80 3-RPP017.72 2/7/1985 M 3.00 50 13.70 16.40 3-RPP017.72 2/7/1985 M 5.00 60 13.50 16.30 3-RPP017.72 2/7/1985 7.00 M 65 13.30 16.70 3-RPP017.72 2/7/1985 M 9.00 .70 13.20 17.00 3-RPP017.72 2/7/1985 M 11.00 .70 13.20 17.00 3-RPP017.72 2/7/1985 M 13.00 .70 13.10 17.00 2/7/1985 3-RPP017.72 M 15.00 .80 13.10 17.30 3-RPP017.72 2/7/1985 В 17.00 .80 7.00 13.10 17.05 13.10 3-RPP017.72 3/7/1985 S 1.00 6.37 7.40 11.10 14.31 11.30 3-RPP017.72 3/7/1985 M 3.00 6.32 11.20 15.00 3-RPP017.72 3/7/1985 M 5.00 6.40 11.10 14.88 3-RPP017.72 3/7/1985 7.00 M 6.44 11.10 15.39 3-RPP017.72 3/7/1985 M 9.00 6.52 11.10 15.54 3-RPP017.72 3/7/1985 M 11.00 6.41 11.00 15.70 3-RPP017.72 3/7/1985 M 13.00 5.68 11.00 16.48 3-RPP017.72 3/7/1985 M 15.00 5.63 10.90 16.53 3-RPP017.72 3/7/1985 M 17.00 5.71 10.90 16.56 3-RPP017.72 3/7/1985 В 19.00 5.60 7.30 10.90 16.57 11.20 3-RPP017.72 3/20/1985 S 1.00 7.30 8.80 11.10 12.20 15.40 3-RPP017.72 3/20/1985 M 3.00 7.30 11.10 15.40 2776 Lines of Data omitted for presentation purposes 3-RPP017.72 1/4/2006 10 3-RPP017.72 1/4/2006 M 50 3-RPP017.72 1/4/2006 S 1.00 6.05 8.05 11.12 14.04 3-RPP017.72 1/4/2006 M 1.00 3-RPP017.72 1/4/2006 M 1.50 3-RPP017.72 1/4/2006 M 2.00 3-RPP017.72 1/4/2006 В 2.50 3-RPP017.72 1/4/2006 M 3.00 6.06 8.05 11.07 14.14 3-RPP017.72 1/4/2006 M 5.00 6.06 8.04 11.05 14.28 3-RPP017.72 1/4/2006 M 7.00 6.06 8.04 11.00 14.36 3-RPP017.72 1/4/2006 M 9.00 6.10 8.05 10.95 14.67 3-RPP017.72 1/4/2006 M 11.00 6.07 8.02 10.83 14.92 3-RPP017.72 1/4/2006 M 13.00 6.06 8.01 10.68 15.02 3-RPP017.72 1/4/2006 В 15.00 6.00 7.97 10.66 15.34 3-RPP017.72 3/8/2006 S .00 3-RPP017.72 3/8/2006 S 10 3-RPP017.72 3/8/2006 M .50 3-RPP017.72 3/8/2006 S 1.00 5.20 8.30 14.00 10.88 3-RPP017.72 3/8/2006 M 1.00 3-RPP017.72 3/8/2006 M 1.50 3-RPP017.72 3/8/2006 M 2.00 3-RPP017.72 3/8/2006 M 2.50 3-RPP017.72 3/8/2006 M 3.00 5.60 8.30 13.70 11.89 3-RPP017.72 3/8/2006 M 3.50 3/8/2006 3-RPP017.72 M 4.00 3-RPP017.72 3/8/2006 В 4.50 3-RPP017.72 3/8/2006 M 5.00 5.70 8.20 13.20 12.11 3-RPP017.72 3/8/2006 M 7.00 5.50 8.20 12.80 12.71 3-RPP017.72 3/8/2006 M 9.00 5.40 8.10 12.30 13.03 3-RPP017.72 3/8/2006 11.00 8.10 M 5.30 12.50 13.07 3-RPP017.72 3/8/2006 M 13.00 5.30 8.10 12.50 13.11 3-RPP017.72 3/8/2006 B 15.00 5.30 8.10 12.50 13.12 3-RPP017.72 4/10/2006 S 10 3-RPP017.72 4/10/2006 M 50 3-RPP017.72 4/10/2006 S 1.00

12.30

3-RPP017.72

4/10/2006

M

1.00

8.30

9.50

12.60

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity	Do Winkler
3-RPP017.72	4/10/2006	M	1.50			PANY COMA PURE BUILDING COMO		
3-RPP017.72	4/10/2006	M	2.00					
3-RPP017.72	4/10/2006	М	2.50					
3-RPP017.72	4/10/2006	M	3.00	12.40	8.30	9.20	12.90	
3-RPP017.72	4/10/2006	М	3.50					
3-RPP017.72	4/10/2006	В	4.00	***************************************				
3-RPP017.72	4/10/2006	М	5.00	12.30	8.30	9.00	13.10	***************************************
3-RPP017.72	4/10/2006	М	7.00	12.20	8.20	8.50	13.20	
3-RPP017.72	4/10/2006	M	9.00	11.40	8.00	7.20	14.40	
3-RPP017.72	4/10/2006	М	11.00	10.90	7.70	6.30	15.20	
3-RPP017.72	4/10/2006	M	13.00	10.80	7.60	6.20	15.30	
3-RPP017.72	4/10/2006	В	14.00	10.80	7.60	6.40	15.30	
3-RPP017.72	6/15/2006	S	1.00	10.00	7.00	0.40	10.00	
3-RPP017.72	6/15/2006	M	3.00	***************************************		*******************************		
3-RPP017.72	6/15/2006	M	5.00	***************************************				
3-RPP017.72	6/15/2006	M	7.00					
3-RPP017.72	6/15/2006	M	9.00					
3-RPP017.72	6/15/2006	M	11.00		***************************************			***************************************
3-RPP017.72	6/15/2006	M	13.00					
3-RPP017.72	6/15/2006	M	15.00		***************************************			
3-RPP017.72	6/15/2006	M	17.00					
3-RPP017.72	6/15/2006	M	19.00	***************************************				
3-RPP017.72	6/15/2006	B	21.00	······································			······	
3-RPP017.72	6/19/2006	S	.10	······································				
3-RPP017.72	6/19/2006	M	.50					
3-RPP017.72	6/19/2006	M			***************************************			
3-RPP017.72	6/19/2006	S	1.00	22.50	7.00	7.00	45.00	
3-RPP017.72	·*····································		1.00	23.50	7.90	7.90	15.20	
	6/19/2006	M	1.50					
3-RPP017.72	6/19/2006	M	2.00		·····			
3-RPP017.72	6/19/2006	M	2.50					
3-RPP017.72	6/19/2006	M	3.00					
3-RPP017.72	6/19/2006	M	3.50					
3-RPP017.72	6/19/2006	M	4.00		***************************************			
3-RPP017.72	6/19/2006	В	4.50			***************************************		
3-RPP017.72	6/19/2006	M	5.00	23.50	7.80	7.70	15.30	
3-RPP017.72	6/19/2006	M	7.00	23.40	7.90	7.30	15.30	
3-RPP017.72	6/19/2006	M	9.00	23.00	7.50	5.10	15.50	*
3-RPP017.72	6/19/2006	M	11.00	22.60	7.40	4.40	15.60	
3-RPP017.72	6/19/2006	В	13.00	22.60	7.40	4.50	15.60	
3-RPP017.72	6/19/2006	S	1.00					
3-RPP017.72	6/19/2006	В	21.00					
3-RPP017.72	7/12/2006	S	.10					
3-RPP017.72	7/12/2006	M	.50					
3-RPP017.72	7/12/2006	S	1.00	26.70	7.90	6.70	14.40	
3-RPP017.72	7/12/2006	М	1.00					
3-RPP017.72	7/12/2006	М	1.50		***************************************			
3-RPP017.72	7/12/2006	М	2.00					
3-RPP017.72	7/12/2006	М	2.50					
3-RPP017.72	7/12/2006	M	3.00	26.60	7.80	6.50	14.60	1000 SASSACION III
3-RPP017.72	7/12/2006	M	3.50					
3-RPP017.72	7/12/2006	М	4.00					***************************************
3-RPP017.72	7/12/2006	М	4.50					
3-RPP017.72	7/12/2006	М	5.00	26.60	7.80	6.30	14.80	
3-RPP017.72	7/12/2006	В	5.00					
3-RPP017.72	7/12/2006	М	7.00	26.60	7.80	6.10	14.90	***************************************
3-RPP017.72	7/12/2006	M	9.00	26.50	7.70	5.40	15.00	
3-RPP017.72	7/12/2006	M	11.00	25.90	7.10	1.90	15.90	

3-RPP017.72	7/12/2006	В	12.00	25.90	7.10	2.20	15.90	

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity	Do Winkler
3-RPP017.72	8/9/2006	M	.50					
3-RPP017.72	8/9/2006	S	1.00	29.00	7.70	3.70	14.80	
3-RPP017.72	8/9/2006	M	1.00		***************************************	***************************************	***************************************	
3-RPP017.72	8/9/2006	М	1.50			***************************************		
3-RPP017.72	8/9/2006	M	2.00					
3-RPP017.72	8/9/2006	М	2.50	***************************************	***************************************			
3-RPP017.72	8/9/2006	М	3.00	29.00	7.70	3.40	14.80	
3-RPP017.72	8/9/2006	М	3.50		7.70	0.40	14.00	
3-RPP017.72	8/9/2006	М	4.00					
3-RPP017.72	8/9/2006	В	4.50		***************************************	***************************************		***************************************
3-RPP017.72	8/9/2006	M	5.00	29.00	7.60	3.10	14.90	
3-RPP017.72	8/9/2006	M	7.00	29.10	7.60	2.60	14.90	
3-RPP017.72	8/9/2006	M	9.00	29.20	7.50	1.40	15.30	
3-RPP017.72	8/9/2006	M	11.00	29.20	7.50	1.10	15.30	
3-RPP017.72	8/9/2006	В	13.00	29.10	7.40	1.00	15.40	
3-RPP017.72	9/13/2006	S	.10	25.10	7.40	1.00	15.40	
3-RPP017.72	9/13/2006	M	.50					
3-RPP017.72	9/13/2006	M	1.00					
3-RPP017.72	9/13/2006	S	1.00	23.70	7.90	7.00	15 10	
3-RPP017.72	9/13/2006	M	1.50	23.70	1.50	7.90	15.10	
3-RPP017.72	9/13/2006	M	2.00					
3-RPP017.72	9/13/2006	В	2.50					
3-RPP017.72	9/13/2006	M	3.00	23.70	7.90	7.00	15 10	***************************************
3-RPP017.72	9/13/2006	M	5.00	23.70	7.90	7.80 7.80	15.10	
3-RPP017.72	9/13/2006	M	7.00	23.70	7.90		15.10	
3-RPP017.72	9/13/2006	M	9.00	23.70	7.90	7.80	15.10	
3-RPP017.72	9/13/2006	В	11.00	23.70	~~~~~	8.20	15.10	
3-RPP017.72	10/11/2006	S	.10	23.70	7.90	8.00	15.20	
3-RPP017.72	10/11/2006		.50					
3-RPP017.72	10/11/2006	S	1.00	19.80	0.10	- 0.00	40.70	
3-RPP017.72	10/11/2006	M	1.00	19.00	8.10	8.90	13.70	
3-RPP017.72	10/11/2006	M	1.50					
3-RPP017.72	10/11/2006	M	2.00					
3-RPP017.72	10/11/2006	M	2.50					
3-RPP017.72	10/11/2006	M	3.00	10.00	7.00		44.00	
3-RPP017.72	10/11/2006	M	3.50	19.90	7.90	8.00	14.30	
3-RPP017.72	10/11/2006	M	4.00					
3-RPP017.72	10/11/2006	B						
3-RPP017.72	10/11/2006	M	4.50	20.00	7.00	7.50		
3-RPP017.72	10/11/2006	M	5.00	20.00	7.90	7.50	14.70	
3-RPP017.72	10/11/2006	M	7.00	20.10	7.80	7.10	15.10	
3-RPP017.72	10/11/2006	M	9.00	20.10	7.80	6.70	15.30	
3-RPP017.72	10/11/2006		11.00	20.10	7.80	6.50	15.50	
3-RPP017.72	10/11/2006	M B	13.00	20.10	7.80	6.30	15.60	
3-RPP017.72	11/14/2006	S	15.00	20.10	7.80	6.30	15.60	
3-RPP017.72	11/14/2006		.10					
3-RPP017.72	11/14/2006	M	.50					
3-RPP017.72		M	1.00	40.00	7.00			
3-RPP017.72	11/14/2006	S	1.00	12.80	7.80	9.10	12.00	
3-RPP017.72	11/14/2006	M	1.50					
3-RPP017.72	11/14/2006	M	2.00					
3-RPP017.72	11/14/2006	M	2.50	10.10				
3-RPP017.72	11/14/2006	M	3.00	13.10	7.90	8.90	14.20	
3-RPP017.72	11/14/2006	M	3.50					
	11/14/2006	M	4.00		***************************************			
3-RPP017.72	11/14/2006	M	4.50					
3-RPP017.72	11/14/2006	M	5.00	13.20	7.90	8.80	14.50	
3-RPP017.72	11/14/2006	M	5.50					
3-RPP017.72	11/14/2006	M	6.00		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
3-RPP017.72	11/14/2006	M	6.50					

3-RPP017.72	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity	Do Winkler
	11/14/2006	M	7.00	13.40	7.90	8.50	15.10	
3-RPP017.72	11/14/2006	M	7.50					***************************************
3-RPP017.72	11/14/2006	M	8.00	***************************************		***************************************		
3-RPP017.72	11/14/2006	В	8.50		***************************************	***************************************		
3-RPP017.72	11/14/2006	M	9.00	13.60	7.90	8.40	15.80	
3-RPP017.72	11/14/2006	M	11.00	13.60	7.90	8.60	15.90	
3-RPP017.72	11/14/2006	В	12.00	13.60	7.90	9.10	15.90	***************************************
3-RPP017.72	12/11/2006	S	.10					
3-RPP017.72	12/11/2006	M	.50					
3-RPP017.72	12/11/2006	S	1.00	7.20	8.10	11.10	11.50	***************************************
3-RPP017.72	12/11/2006	М	1.00	***************************************				***************************************
3-RPP017.72	12/11/2006	М	1.50					
3-RPP017.72	12/11/2006	М	2.00					
3-RPP017.72	12/11/2006	М	2.50	***************************************				***************************************
3-RPP017.72	12/11/2006	М	3.00	7.70	8.00	10.60	11.70	
3-RPP017.72	12/11/2006	М	3.50			10.00	11.70	
3-RPP017.72	12/11/2006	М	4.00					
3-RPP017.72	12/11/2006	В	4.50					
3-RPP017.72	12/11/2006	М	5.00	8.60	7.90	9.80	13.00	
3-RPP017.72	12/11/2006	М	7.00	9.20	7.90	9.60	14.00	
3-RPP017.72	12/11/2006	В	9.00	9.20	7.90	9.70	14.00	
3-RPP017.72	1/18/2007	S	.10		7.00	3.70	14.00	
3-RPP017.72	1/18/2007	М	.50	······································				
3-RPP017.72	1/18/2007	S	1.00	8.10	8.20	10.40	11.40	
3-RPP017.72	1/18/2007	М	1.00	0.10	0.20	10.40	11.40	
3-RPP017.72	1/18/2007	М	1.50					***************************************
3-RPP017.72	1/18/2007	М	2.00					
3-RPP017.72	1/18/2007	В	2.50					
3-RPP017.72	1/18/2007	М	3.00	8.20	8.20	10.30	11.40	
3-RPP017.72	1/18/2007	М	5.00	8.70	8.10	10.10	12.30	
3-RPP017.72	1/18/2007	М	7.00	8.80	8.10	9.90	12.40	
3-RPP017.72	1/18/2007	М	9.00	9.00	8.10	9.40	14.00	
3-RPP017.72	1/18/2007	M	11.00	9.10	8.00	9.30	14.60	
3-RPP017.72	1/18/2007	M	13.00	9.10	8.00	9.30	14.70	
3-RPP017.72	1/18/2007	В	14.00	9.10	8.00	9.40	14.70	
3-RPP017.72	2/26/2007	S	.10	0.10	0.00	3.40	14.70	
3-RPP017.72	2/26/2007	M	.50					
3-RPP017.72	2/26/2007	S	1.00	3.20	7.90	12.30	11.80	
3-RPP017.72	2/26/2007	M	1.00		7.30	12.30	11.00	
3-RPP017.72	2/26/2007	M	1.50					
3-RPP017.72	2/26/2007	M	2.00					
3-RPP017.72	2/26/2007	В	2.50					
3-RPP017.72	2/26/2007	М	3.00	3.20	7.90	12.10	12.20	***************************************
3-RPP017.72	2/26/2007	M	5.00	3.10	7.90	12.00	13.00	
3-RPP017.72	2/26/2007	М	7.00	3.10	7.90	11.90	13.20	
3-RPP017.72	2/26/2007	M	9.00	3.10	7.90	11.90	13.30	
3-RPP017.72	2/26/2007	M	11.00	3.10	7.90	11.90	13.40	
3-RPP017.72	2/26/2007	M	13.00	3.10	7.90	11.90	13.40	
3-RPP017.72	2/26/2007	В	14.00	3.10	7.90	12.00	13.40	-
3-RPP017.72	4/25/2007	S	1.00	14.30	8.70	11.70	8.90	***************************************
3-RPP017.72	4/25/2007	M	2.00	14.20	8.70	11.00	9.10	***************************************
3-RPP017.72	4/25/2007	M	3.00	14.00	8.60	10.60	9.40	
- · · · · · · · · · · · · · · · · · · ·	4/25/2007	M	4.00	13.60	8.50	9.80		
	4/25/2007	M	5.00	13.20	8.30	9.80	9.60	
3-RPP017.72	7/23/2001	IVI		**************************************	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		9.80	
3-RPP017.72 3-RPP017.72		M	6 00	12 10	8 20 1	0 50	10 00	
3-RPP017.72 3-RPP017.72 3-RPP017.72	4/25/2007	M	7.00	13.10	8.20	8.50	10.20	
3-RPP017.72 3-RPP017.72 3-RPP017.72 3-RPP017.72	4/25/2007 4/25/2007	M	7.00	11.20	7.50	7.10	11.30	
3-RPP017.72 3-RPP017.72 3-RPP017.72	4/25/2007					The second secon		

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity	Do Winkler
3-RPP017.72	4/25/2007	M	11.00	11.10	7.50	7.00	11.40	
3-RPP017.72	4/25/2007	M	12.00	11.10	7.50	7.10	11.40	
3-RPP017.72	4/25/2007	M	13.00	11.00	7.50	7.10	11.40	
3-RPP017.72	4/25/2007	M	14.00	11.00	7.50	7.10	11.40	
3-RPP017.72	4/25/2007	В	15.00	11.00	7.50	7.30	11.40	
3-RPP017.72	5/9/2007	S	1.00	16.20	8.10	7.50	9.10	***************************************
3-RPP017.72	5/9/2007	М	2.00	16.20	8.10	7.10	9.40	***************************************
3-RPP017.72	5/9/2007	М	3.00	16.20	8.00	7.00	9.50	
3-RPP017.72	5/9/2007	М	4.00	16.20	8.00	6.90	9.50	
3-RPP017.72	5/9/2007	М	5.00	16.20	8.00	6.80	9.50	***************************************
3-RPP017.72	5/9/2007	М	6.00	16.20	8.00	6.70	9.60	
3-RPP017.72	5/9/2007	М	7.00	16.20	8.00	6.60	9.60	
3-RPP017.72	5/9/2007	М	8.00	16.20	8.00	6.50	9.60	
3-RPP017.72	5/9/2007	M	9.00	16.20	8.00	6.40	9.60	
3-RPP017.72	5/9/2007	М	10.00	16.20	8.00	6.30	9.60	
3-RPP017.72	5/9/2007	М	11.00	16.20	7.90	5.90	9.70	
3-RPP017.72	5/9/2007	M	12.00	16.00	7.70	4.80	10.10	
3-RPP017.72	5/9/2007	M	13.00	15.90	7.60	4.80	10.30	***************************************
3-RPP017.72	5/9/2007	В	14.00	15.90	7.60	4.80	10.30	***************************************
3-RPP017.72	6/6/2007	S	1.00	23.30	7.90	6.60	11.00	
3-RPP017.72	6/6/2007	M	2.00	23.30	7.90	5.70	11.00	
3-RPP017.72	6/6/2007	M	3.00	22.00	7.70	4.10	12.30	
3-RPP017.72	6/6/2007	M	4.00	21.90	7.50	3.60	13.40	***************************************
3-RPP017.72	6/6/2007	M	5.00	21.20	7.40	3.20	13.40	
3-RPP017.72	6/6/2007	M	6.00	21.10	7.40	3.00	14.30	
3-RPP017.72	6/6/2007	M	7.00	20.60	7.40	3.00	15.00	
3-RPP017.72	6/6/2007	M	8.00	20.60	7.40	2.80	15.20	
3-RPP017.72	6/6/2007	M	9.00	20.40	7.40	2.70	15.20	
3-RPP017.72	6/6/2007	M	10.00	20.30	7.40	2.80	15.40	
3-RPP017.72	6/6/2007	M	11.00	20.30	7.40	2.90	15.50	***************************************
3-RPP017.72	6/6/2007	M	12.00	20.30	7.40	2.90	15.50	***************************************
3-RPP017.72	6/6/2007	M	13.00	20.30	7.40	3.00	15.40	
3-RPP017.72	6/6/2007	В	14.00	20.30	7.40	3.10	15.40	
3-RPP017.72	7/11/2007	S	1.00	27.70	8.10	7.00	14.60	
3-RPP017.72	7/11/2007	M	2.00	27.70	8.10	6.50	14.60	***************************************
3-RPP017.72	7/11/2007	M	3.00	27.70	8.10	5.00	14.70	
3-RPP017.72	7/11/2007	M	4.00	27.00				
3-RPP017.72	7/11/2007	M	5.00	26.30	7.70 7.40	3.70 2.50	15.20	
3-RPP017.72	7/11/2007	M	6.00	26.20	7.40	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	15.40	
3-RPP017.72	7/11/2007	M	7.00	25.40	7.40	2.20 1.30	15.60	
3-RPP017.72	7/11/2007	M	8.00	25.00	7.30		16.40	
3-RPP017.72	7/11/2007	M	9.00	24.80	7.30	1.10 1.10	17.10	
3-RPP017.72	7/11/2007	В	10.00	24.80	~~~~~~	~~~~	17.60	
3-RPP017.72	8/9/2007	S	1.00	29.80	7.30 8.00	1.40 6.00	17.60	
3-RPP017.72	8/9/2007	M	2.00	29.70			16.40	
3-RPP017.72	8/9/2007	M	3.00	28.70	8.00	5.30	16.40	
3-RPP017.72	8/9/2007	M		······································	7.70	3.60	17.10	***************************************
3-RPP017.72	8/9/2007	M	4.00 5.00	28.40	7.60	3.10	17.30	
3-RPP017.72	8/9/2007	M		28.30	7.60	2.70	17.50	
3-RPP017.72	8/9/2007	M	6.00	28.10	7.50	2.40	17.60	
3-RPP017.72	8/9/2007	M	7.00	28.10	7.50	2.20	17.70	
3-RPP017.72	·		8.00	27.50	7.50	1.40	18.50	
3-RPP017.72	8/9/2007	M	9.00	27.10	7.40	1.00	19.10	
	8/9/2007	M	10.00	27.10	7.40	.90	19.30	
3-RPP017.72	8/9/2007	В	11.00	27.00	7.40	1.00	19.30	
3-RPP017.72	9/12/2007	S	1.00	26.80	7.70	5.30	17.20	
3-RPP017.72	9/12/2007	M	2.00	26.80	7.70	5.20	17.30	
3-RPP017.72	9/12/2007	M	3.00	26.90	7.70	5.00	17.30	
3-RPP017.72	9/12/2007	M	4.00	27.00	7.70	4.60	17.50	
3-RPP017.72	9/12/2007	M	5.00	27.10	7.70	3.90	18.00	

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity	Do Winkler
3-RPP017.72	9/12/2007	М	6.00	27.20	7.60	2.90	18.40	Do TTIII KIO
3-RPP017.72	9/12/2007	М	7.00	27.00	7.50	1.80	19.40	
3-RPP017.72	9/12/2007	M	8.00	27.00	7.40	1.20	19.70	***************************************
3-RPP017.72	9/12/2007	M	9.00	26.80	7.40	.80	20.40	
3-RPP017.72	9/12/2007	В	10.00	26.80	7.40	.90	20.50	
3-RPP017.72	10/10/2007	S	1.00	24.90	8.00	6.80	18.50	
3-RPP017.72	10/10/2007	M	2.00	25.00	7.90	6.50	18.50	
3-RPP017.72	10/10/2007	M	3.00	25.00	7.90	6.20	18.50	
3-RPP017.72	10/10/2007	M	4.00	24.90	7.80	5.70	18.70	
3-RPP017.72	10/10/2007	M	5.00	24.60	7.70	5.00	18.80	
3-RPP017.72	10/10/2007	M	6.00	24.60	7.70	4.90	18.90	
3-RPP017.72	10/10/2007	M	7.00	24.50	7.70	4.60	19.00	
3-RPP017.72	10/10/2007	M	8.00	24.40	7.70	4.30	19.10	
3-RPP017.72	10/10/2007	M	9.00	24.30	7.60	3.70	19.10	
3-RPP017.72	10/10/2007	M	10.00	23.80	7.50	2.90	19.40	
3-RPP017.72	10/10/2007	M	11.00	23.80	7.50	2.90	19.80	
3-RPP017.72	10/10/2007	B	12.00	23.80	7.50	3.20	19.80	
3-RPP017.72	12/11/2007	S	1.00	8.70	7.90	10.00	18.50	***************************************
3-RPP017.72	12/11/2007	M	2.00	8.70	7.90	9.90	18.50	
3-RPP017.72	12/11/2007	M	3.00	8.70	7.90	9.80	18.60	
3-RPP017.72	12/11/2007	M	4.00	8.70	7.90	9.60	18.60	
3-RPP017.72	12/11/2007	M	5.00	8.60	7.90	9.40	19.00	
3-RPP017.72	12/11/2007	M	6.00	8.60	7.90	9.40	******************************	······································
3-RPP017.72	12/11/2007	M	7.00	8.60	7.80	9.10	19.10 19.50	
3-RPP017.72	12/11/2007	M	8.00	8.60	7.80	9.00	19.60	
3-RPP017.72	12/11/2007	M	9.00	8.60	7.80	8.90	19.60	
3-RPP017.72	12/11/2007	B	10.00	8.60	7.80	8.90	20.00	······································
3-RPP017.72	1/22/2008	S	.00	0.00	7.00	0.90	20.00	
3-RPP017.72	1/22/2008	S	1.00	4.60	7.80	11.00	17.50	
3-RPP017.72	1/22/2008	M	2.00	4.60	7.80		17.50	***************************************
3-RPP017.72	1/22/2008	M	3.00	4.60	7.80	11.00 11.00	17.50	***************************************
3-RPP017.72	1/22/2008	M	4.00	4.60	7.80	11.00	17.50	
3-RPP017.72	1/22/2008	M	5.00	5.20	7.80	10.80	17.50 17.90	
3-RPP017.72	1/22/2008	M	6.00	5.20	7.80	10.80	17.90	
3-RPP017.72	1/22/2008	M	7.00	5.20	7.80	10.70	~~~~	
3-RPP017.72	1/22/2008	M	8.00	5.20	7.70	10.70	18.00 17.90	
3-RPP017.72	1/22/2008	M	9.00	5.20	7.70	10.70	17.90	
3-RPP017.72	1/22/2008	M	10.00	5.20	7.70			
3-RPP017.72	1/22/2008	M	11.00	5.20	7.70	10.80 10.80	17.90	
3-RPP017.72	1/22/2008	M	12.00	5.20	7.70	10.80	17.90 17.90	***************************************
3-RPP017.72	1/22/2008	M	13.00	5.20	7.70	10.80		
3-RPP017.72	1/22/2008	В	14.00	5.20	7.70	10.80	17.90 17.90	
90th Percentile	1/22/2000	<u> </u>	14.00	27.0	8.1	10.00	17.90	
10th Percentile				5.2				
Mean				J.L	7.4		15.0	
invair							15.0	L

Note: The Mean, 90th Percentiles, and 10th Percentiles for Temperature, pH, and Salinity encompass ALL data, including those omitted for presentation purposes.

Attachment E

Effluent Limitations Evaluations

FACILITY NAME AND PERMIT NUMBER: Christchurch School VAOO 24066

Form Approved 1/14/99 OMB Number 2040-0086

A.5.	Inc	dian Country.				
	a.	Is the treatment works located in Indian Cou	ntry?			
		YesNo				
	b.	Does the treatment works discharge to a rec through) Indian Country?	eiving water that is either in I	ndian Country or that is	upstream from (and e	ventually flows
		Yes No				
A.6.	da	ow. Indicate the design flow rate of the treatm ily flow rate and maximum daily flow rate for ea onth of "this year" occurring no more than three	ach of the last three years. E	ach vear's data must be	was built to handle). A based on a 12-month	Also provide the average a time period with the 12th
	a.	Design flow rate0, 0 4 mgd			110	
			Two Years Ago	Last Year	This Year	
	b.	Annual average daily flow rate	.00758	.0147	. 011	2 mgd
	c.	Maximum daily flow rate	.0583	.0147	42	2Z mgd
A.7.	Co	ellection System. Indicate the type(s) of colle	ection system(s) used by the	treatment plant. Check	all that apply Also es	timate the percent
	co	ntribution (by miles) of each.	-,(-, 2,	a saurisin piana Silosk	ан тас арру. Дізо ес	diffate the percent
		Separate sanitary sewer				100 %
		Combined storm and sanitary sewer				%
A.8.	Di	scharges and Other Disposal Methods.				
	a.	Does the treatment works discharge effluent	to waters of the LLC 2		/ ,	
	a.	If yes, list how many of each of the following		trootmont works wood	Yes	No
		Discharges of treated effluent	types of discharge points the	e treatment works uses.		1
		ii. Discharges of untreated or partially treat	ed effluent		-	0
		iii. Combined sewer overflow points			·	0
		iv. Constructed emergency overflows (prior	to the headworks)		-	0
		v. Other			_	0
	b.	Does the treatment works discharge effluent that do not have outlets for discharge to water	to basins, ponds, or other sizes of the U.S.?	urface impoundments	Yes	√ No
		If yes, provide the following for each surface	impoundment:		1 890-2386	
		Location:				
		Annual average daily volume discharged to s	surface impoundment(s)			mgd
		Is discharge continuous or	intermittent?			
	C.	Does the treatment works land-apply treated	wastewater?		Yes	./ No
		If yes, provide the following for each land app				
		Location:				
		Number of acres:				
	9	Annual average daily volume applied to site:		Mgd		
		Is land application continuo	us or intermi	ttent?		
	d.	Does the treatment works discharge or trans treatment works?	port treated or untreated was	tewater to another	Yes	No

FACILITY NAME AND PERMIT NUMBER: Christchurch School

VA0024066

Form Approved 1/14/99 OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9.	Des	scription of Outfall.	. T			
	a.	Outfall number	001	_		
	b.	Location	Christchurch		2303	1
			(City or town, if applicable) Middlesex Cou	nty	(Zip Code)	
			(County) N 37° 36.9		(State) W 76°	32.962
			(Latitude)		(Longitude)	
	c.	Distance from shore (if a	applicable)	NA	_ ft.	
	d.	Depth below surface (if a		NA	- ft.	
					PARTON,	
	e.	Average daily flow rate			_ mgd	
	f.		ther an intermittent or a periodic		/	
		discharge?		Yes	No (go to A	.9.g.)
		If yes, provide the follow	ing information:			
		Number of times per yea	ar discharge occurs:			
		Average duration of each	Section and section of control of the section of th			
	32	Average flow per discha			mgd	
		Months in which dischar	- T		94	
					/	
	g.	Is outfall equipped with	a diffuser?	Yes	No	
A.10.	. De	scription of Receiving \	Waters.	100	~	
	a.	Name of receiving water	unnamed	tibutary to	the Rappahanno	ch River-
	- series			9	the Rappahanno Cappahannoch Riv	
	b.	Name of watershed (if k	nown)		appahannock Kil	147
		United States Soil Cons	servation Service 14-digit watershe	ed code (if known):	NH	
		etacescol in Codificació, El Codi, El Codi	×	2	1 1 0.	7
	C.	Name of State Manager	ment/River Basin (if known):	Ka,	ppahannoch River	BASIN
		United States Geologica	al Survey 8-digit hydrologic catalo	ging unit code (if known):	NA	
			,			
	d.		iving stream (if applicable):	chronic	0	
	27-0-	acuteO				
	e.		ving stream at critical low flow (if a			The same was to be
		F [2] .	at analyzed for h	iardress on 1	1-3-06 - result 1	was 28 mg/L
		L77108.	in any competent			
			2 \ /	- · · - ·	2	
			River Inile.	- 3-XEA	30.26	

CILITY NAME AND PERMI								oproved 1/14/99 umber 2040-0086
Christchor	ch Sci	Lool	VAO	024066			OIVIB IN	amber 2040-0000
11. Description of Treatme								
What levels of treatm Primary Advance	3.55	ided? Che	Second					
b. Indicate the following		es (as anr					-	
			**************************************			c	7.5 % 7.5	sased on Taw
Design BOD ₅ remov	al or Design C	CBOD ₅ re	inovai		-		7.5 %	Based on raw BOD and TSS f zyongil; an Efluent concentra
Design SS removal							1.3 %) Pf	iffuent concontro
Design P removal						NA	%	04 70147 -
Design N removal						NA	%	
Other		_					%	
c. What type of disinfe	**		721		,	y season, ple	ease describe.	
chlorina	tion usi.	~9 a	tablet	chlorina	for			
If disinfection is by	chlorination, is	s dechlorii	nation used fo	r this outfall?	_	Yes	s	No
	plant have no	ost aeratio	on?			Yes	s v	No
parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	applicants effluent to nation on oted using opriate Q a must be	s that dischar testing requir combined se g 40 CFR Part A/QC require	ed by the permit ewer overflows in t 136 methods. ements for stand	tting authorit n this section In addition, t lard methods	by for each on. All information data must for analytes	uent testing data utfall through wh ation reported mu st comply with QA s not addressed b	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136.
12. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	applicants effluent t nation on cted using opriate Q a must be	s that dischar testing requir combined se g 40 CFR Part A/QC require	ed by the perminer overflows in the table of tabl	tting authorit n this section In addition, t lard methods	y for each on All inform his data must for analytes st be no mo	uent testing data utfall through wh ation reported mu st comply with QA s not addressed b	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. one-half years apart.
12. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number:	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	Applicants effluent t nation on oted using opriate Q a must be	s that dischar testing requir combined se g 40 CFR Part A/QC require e based on at	ed by the perminer overflows in the table of tabl	tting authorit n this section In addition, t lard methods	y for each on All inform his data must for analytes st be no mo	uent testing data utfall through who ation reported must comply with QAs not addressed bre than four and or RAGE DAILY VALUE	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. one-half years apart.
2. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number: PARAMETER	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	Applicants effluent to nation on cited using opriate Q a must be O /	s that dischar testing requir combined se g 40 CFR Pari A/QC require e based on at	ed by the permit ewer overflows in t 136 methods. ements for stand least three sam	tting authorit n this section In addition, t lard methods iples and mu	y for each on All inform his data must for analytes st be no mo	uent testing data utfall through who ation reported must comply with QAs not addressed bre than four and or RAGE DAILY VALUE	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. bene-half years apart.
2. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number: PARAMETER (Minimum)	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	Applicants effluent t nation on sted using opriate Q a must be	s that dischar testing requir combined se g 40 CFR Pari A/QC require e based on at	ed by the permit ewer overflows in t 136 methods. ments for stand least three same	tting authorit n this section In addition, t lard methods iples and mu	y for each on All inform his data must for analytes st be no mo	uent testing data utfall through who ation reported must comply with QAs not addressed bre than four and or RAGE DAILY VALUE	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. bene-half years apart.
12. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number: PARAMETER H (Minimum)	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	Applicants effluent to nation on oted using opriate Q a must be O /	s that dischartesting require combined seg 40 CFR Part A/QC require e based on at AXIMUM DAIL	ed by the permite wer overflows in the stands. It is a methods. It is a ments for stands it least three same the stands in the s	tting authorit n this section In addition, t lard methods iples and mu	y for each on. All information in All information i	uent testing data utfall through who ation reported must comply with QAs not addressed bre than four and or RAGE DAILY VALUE	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. bene-half years apart.
2. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number: PARAMETER (Minimum) (Maximum)	nation. All A ne indicated e clude inform lysis conduc d other appro t testing data	M. Va	s that dischartesting require combined seg 40 CFR Part AVQC require based on at AXIMUM DAIL alue 7. Z9 3. 58 0422 9.1	ed by the permitewer overflows it 136 methods. It is ments for standard least three same LY VALUE Units s.u. s.u. MGD C	tting authorit n this section In addition, t lard methods sples and mu Value 0, 0,11 14,7	y for each on. All inform his data must for analytes st be no mo	uent testing data utfall through whation reported must comply with QAs not addressed bere than four and comply with the comply with the complex comple	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. one-half years apart.
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12. Effluent Testing Inform parameters. Provide the discharged. Do not in collected through anal of 40 CFR Part 136 and At a minimum, effluen Outfall number:	nation. All Anne indicated eclude informallysis conducted other approximates testing data	My Va	s that dischartesting require combined seg 40 CFR Part AVQC require based on at AXIMUM DAIL AXIMUM DAIL 7. 79 3. 58 9.7 7. 7 mum daily value discount of the combined segment of the combined se	ed by the permitewer overflows it 136 methods. It 136 methods. It is in the same to the same three same to the same three same to the same three same thre	tting authorit n this section In addition, t lard methods sples and mu Value 0, 0,11 14,7	y for each on. All inform his data must for analytes st be no mo	uent testing data utfall through whation reported must comply with QAs not addressed bere than four and comply with the comply with the complex comple	ich effluent is ust be based on data NQC requirements by 40 CFR Part 136. one-half years apart.
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Permit No. VA0024066 Attachment A Page 1 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL NO. 001

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁶
		DISSOLVED	METALS			
7440-36-0	Antimony	(4)	0.2		G	1/5 YR
7440-38-2	Arsenic	(4)	(6)		G	1/5 YR
7440-43-9	Cadmium	(4)	0.3		G	1/5 YR
16065-83-1	Chromium III	(4)	0.5		G	1/5 YR
18540-29-9	Chromium VI	(4)	0.5		G	1/5 YR
7440-50-8	Copper	(4)	0.5		G	1/5 YR
7439-92-1	Lead	(4)	0.5		G	1/5 YR
7439-97-6	Mercury	(4)	1.0		G	1/5 YR
7440-02-0	Nickel	(4)	0.5		G	1/5 YR
7782-49-2	Selenium	(4)	2.0		G	1/5 YR
7440-22-4	Silver	(4)	0.2		G	1/5 YR
7440-28-0	Thallium	(5)	(6)		G	1/5 YR
7440-66-6	Zinc	(4)	2.0		G	1/5 YR
ar kan di Antonio di Antonio (kan di Antonio	ad discusario con consecuente medicarensi considera con con differente della della differe i que con demendia de con	PESTICIDE	ES/PCB'S	NE WIELDERS ONE SERVICE SERVICE CHEMICALE TO THE	de para la composition de la composition della c	* Branches en
309-00-2	Aldrin	608	0.05		GorC	1/5 YR
57-74-9	Chlordane	608	0.2		GorC	1/5 YR
2921-88-2	Chlorpyrifos (Dursban)	622	(6)	~ QL	GorC	1/5 YR
72-54-8	DDD	608	0.1		GorC	1/5 YR
72-55-9	DDE	608	0.1		G or C	1/5 YR
50-29-3	DDT	608	0.1		G or C	1/5 YR
8065-48-3	Demeton	(5)	(6)	LQL	G or C	1/5 YR
60-57-1	Dieldrin	608	0.1		GorC	1/5 YR
959-98-8	Alpha-Endosulfan	608	0.1		G or C	1/5 YR
33213-65-9	Beta-Endosuifan Sasasulfan-II	608	0.1		Garc	1/5 YR
1031-07-8	Endosulfan Sulfate	608	0.1		GorC	1/5 YR
72-20-8	Endrin	608	0.1		G or C	1,5 YR
7421-93-4	Endrin Aldehyde	(5)	(6)		G or C	1/5 YR
86-50-0	Guthion	622	(6)	LQL	G or C	. 15 YR

Permit No. VA0024066 Attachment A Page 2 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³
78-44-8	Heptachlor	608	0.5		G or C	1/5 YR
1024-57-3	Heptachlor Epoxide	(5)	(8)		G or C	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC (Lindane)	(5)	(6)		G or C	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	(5)	(6)		GorC	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	0.05		G or C	1/5 YR
143-50-0	Kepone	(10)	(6)		GorC	1/5 YR
121-75-5	Malathion	(5)	(6)	494	GorG	1/5 YR
72-43-5	Methaxychior	(5)	(6)	-44	GorC	1/5 YR
2385-85-5	Mirex	(5)	(6)		GorC	1/5 YR
56-38-2	Parathlon	(5)	(6)	4QL	G or C	1/5 YR
11096-82-5	PCB 1260	608	1.0	4	GorC	1/5 YR
11097-69-1	PCB 1254	608	1.0		GorC	1/5 YR
12672-29-6	PCB 1248	608	1.0		GorC	1/5 YR
53469-21-9	PCB 1242	808	1.0		Gorc	1/5 YR
1141-16-5	PCB 1232	608	1.0		GorC	1/5 YR
1104-28-2	PCB 1221	608	1.0		GorC	1/5 YR
2674-11-2	PCB 1016	308	1.0		Gorc	1/5 YR
1336-36-3	PC8 Total	808	1.0		Gorc	1/5 YR
8001-35-2	Toxaphene	608	5.0		GorC	1/5 YR
60-10-5	Tributyltin	(8)	(6)		GorC	1/5 YR
and the second second	BASEN	IEUTRAL E		BLES		1/3 1 A
83-32-9	Acenaphthene	825	10.0		GorC	1/5 YR
120-12-7	Anthracene	825	10.0		Gorc	1/5 YR
92-87-5	Benzidlne	(5)	(8)		Gorc	1/5 YR
56-55-3	Benzo (a) anthracene	825	10.0		GorC	
205-99-2	Benzo (b) fluoranthene	625	10.0		Garc	1/5 YR
207-08-9	Benzo (k) fluoranthene	525	10.0		i	1/5 YFI
50-32-8	Benzo (a) pyrene	325	10.0		Gorc .	1,5 YR
			10.0		GorC	1/5 YA

Permit No. VA0024066 Attachment A Page 4 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

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CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³
120-82-1	1,2,4-Trichlorobenzene	625	10.0		G or C	1/5 YR
NACES AND ASSESSMENT OF THE PARTY OF THE PAR	A management of the state of th	VOLAT	ILES			
107-02-8	Acrolein	(5)	(6)		G	1/5 YR
107-13-1	Acrylonitrile	(5)	(6)		G	1/5 YR
71-43-2	Benzene	824	10.0		G	1/5 YR
75-25-2	Bromoform	624	10.0		G	1/5 YR
56-23-5	Carbon Tetrachioride	624	10.0		g	1/5 YR
108-90-7	Chlorobenzene (synonym = monochlorobenzene)	(5)	(6)		G	1/5 YR
124-48-1	Chloradibromomethane	624	10.0		G	1/5 YR
67-66 - 3	Chloraform	624	10.0		Ģ	1/5 YR
75•09-2	Dichloromethane	624	20.0		G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0		G	1/5 YR
107-06-2	1,2-Dichloroethane	824	10.0		G	1/5 YR
75-35-4	1,1-Oichloroethylene	524	10.0		G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	(5)	(6)		G	1/5 YR
78-87-5	1,2-Dichloropropane	(5)	(8)		G	1/5 YR
542-75-6	1.3-Dichloropropene	(5)	(6)		G	1/5 YR
100-41-4	Ethylbenzene	624	10.0		G	1/5 YR
74-83-9	Methyl Bromide	(5)	(6)		G	1/5 YR
79-34-5	1,1.2,2-Tetrachloroethane	(5)	(6)		G	1/5 YR
127-18-4	Tetrachloroethylene	624	10.0		G	1/5 YR
10-88-3	Toluene	624	10.0		G	1/5 YR
79-00-5	1,1.2-Trichlorcethane	(5)	(8)		G	1/5 YR
79-01-6	Trichloroethy'sne	824	10 0		G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0		G	1/5 YR
hally gram you think have the your construction.		RADION	JCLIDES		ayanmanoo kalaadana kassassanoo	onto the contract of the contr
, acresiment and #700	Strontium 90 (pCi/L)	(5)	(6)	L0.05 mg/	Gorc	1/5 YR
	Tritlum (pCi/L)	(5)	(6)		GorC	1/5 YR

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DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL NO. 001

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE(2)	SAMPLE FREQUENCY(*
		DISSOLVED	METALS			A CONTRACTOR OF THE PROPERTY O
7440-36-0	Antimony	(4)	0.2	404	G	1/5 YR
7440-38-2	Arsenic	(4)	(6)	0.02 mg/L	G	1/5 YR
7440-43-9	Cadmium	(4)	0.3	LQL	G	1/5 YR
16065-83-1	Chromium III	(4)	0.5	LOL	G	1/5 YR
18540-29-9	Chromium VI	(4)	0.5	LOL	G	1/5 YR
7440-50-8	Соррег	(4)	0.5	0.014 Mg/L	G	1/5 YR
7439-92-1	Lead	(4)	0.5	LQL	G	1/5 YR
7439-97-6	Mercury	(4)	1.0	LQL	Ģ	1/5 YR
7440-02-0	Nickel	(4)	0.5	L QL	G	1/5 YR
7782-49-2	Selenium	(4)	2.0	LQL	G	1/5 YR
7440-22-4	Sliver	(4)	0.2	464	G .	1/5 YR
7440-28-0	Thallium	(5)	(6)	LQL	G	1/5 YR
7440-66-6	Zinc	(4)	2.0	0054 Mg/L	G	1/5 YR
Marie Carlos Control Processor Marie Control		PESTICIDE	S/PCB'S		Production Company and State of State o	The react production to the reaction of a transmission contact of the second
309-00-2	Aldrin	508	0.05	LQL	G or ¢	1/5 YR
57-74-9	Chlordane	508	0.2	LQL	G or C	1/5 YR
2921-88-2	Chlorpyrifos (Dursban)	622	(6)		G or C	1/5 YR
72-54-8	DDD	608	0.1	4QL	G or C	1/5 YR
72-55-9	DDE	608	0.1	LQL	G or C	1/5 YR
50-29-3	DDT	508	0.1	4QL	G or C	1/5 YR
8065-48-3	Demeton	(5)	(6)		G or C	1/5 YR
60-57-1	Dieldtin	608	0.1	LQL	G or C	1/5 YR
959-98-8	Alpha-Endosulfan	608	0.1	LQL	G or C	1/5 YR
33213-65-9	Beta-Endosulfan	608	0.1	LQL	G or C	1/5 YR
1031-07-8	Endosulfan Sulfate	608	0.1	'QL	G or C	1/5 YR
72-20-8	Endrin	608	0.1	LQL	G or C	1,5 YR
7421-93-4	Endrin Aldehyde	(5)	(6)	LQL	G or C	1/5 YR
86-50-0	Guthion	622	(5)		G or C	1.5 YR

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DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL	NO.	001
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CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE(2)	SAMPLE FREQUENCY ⁽³⁾
78-44-8	Heptachlor	608	0.5	4QL	G or C	1/5 YR
1024-57-3	Heptachlor Epoxide	(5)	(8)	4QL	G or C	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC (Lindane)	(5)	(6)	4QL	G or C	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	(5)	(6)	4QL	GorC	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	0.05	4QL	G or C	1/5 YR
143-50-0	Kepone	(10)	(6)	0.0049/1	G or C	1/5 YR
121-75-5	Malathion	(5)	(6)		GorC	1/5 YR
72-43-5	Methaxychior	(5)	(8)	401	GorC	1/5 YR
2385-85-5	Mirex	(5)	(6)	4QL	GorC	1/5 YR
58-38-2	Parathion	(5)	(6)		GorC	1/5 YR
11096-82-5	PCB 1260	608	1.0	4QL	GorC	1/5 YR
11097-69-1	PCB 1254	608	1.0	4QL	GorC	1/5 YR
12672-29-6	PCB 1248	608	1,0	LQL	Gorc	1/5 YR
53469-21-9	PCB 1242	608	1.0	4QL	GorC	1/5 YR
11141-16-5	PCB 1232	608	1.0	4QL	GorC	1/5 YR
11104-28-2	PCB 1221	608	1.0	4QL	GorC	1/5 YR
12674-11-2	PCB 1016	508	1.0	4QL	GorC	1/5 YR
1336-36-3	PC8 Total	608	1.0	LQL	GorC	1/5 YR
8001-35-2	Toxaphene	608	5.0	LQL	G or C	1/5 YR
60-10-5	TributyItin	(8)	(6)	LQL	Gorc	1/5 YR
	BASEN	EUTRAL E	XTRACTAE		-	
83-32-9	Acenaphthene	625	10.0	LQL	GorC	1/5 YR
120-12-7	Anthracene	325	10.0	LQL	G or C	1/5 YR
92-87-5	Benzidine	(5)	(8)	'QL	Gorc	1/5 YR
56-55-3	-Benzo (a) anthracene	625	10.0	LOL	GorC	1/5 YR
205-99-2	Benzo (b) fluoranthene	625	10.0	-QL	GorC	1/5 YR
207-08-9	Benzo (k) fluoranthene	625	10.0	LQL	GorC	1,5 YR
50-32-8	Benzo (a) pyrene	325	10.0	LQL	GorC	1/5 YR
111-44-4	Bis 2-Chlorosthyl Ether	(5)	(6)	4QL	Gorc	1/5 YA

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DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL NO. 001

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³⁾
39638-32-9	Bis 2-Chlorolsopropyl Ether	(5)	(6)	4QL	G or C	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	4QL	GorC	1/5 YR
91-58-7	2-Chloronaphthalene	(5)	(6)	4QL	GorC	1/5 YR
218-01-9	Chrysene	625	10.0	4QL	GorC	1/5 YR
53-70-3	Dibenz(a,h)anthracene	625	20.0	4QL	G or C	1/5 YR
84-74-2	Dibutyl phthalate (synonym = Di-n-Butyl Phthalate	625	10.0	LQL	G or C	1/5 YR
95-50-1	1,2-Dichlorobenzene	625	10.0	4QL	G or C	1/5 YR
541-73-1	1,3-Dichlorobenzene	625	10.0	401	Gorç	1/5 YR
106-45-7	1,4-Dichlorobenzene	625	10.0	4 QL	G or C	1/5 YR
91-94-1	3,3-Dichlorobenzidine	(5)	(6)	4QL	GorC	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	4 QL	G or C	1/5 YR
117-81-7	Di-2-Ethylhexyl Phthalate	625	10.0	4 Q L	GorC	1/5 YR
131-11-3	Dimethyl phthalate	(5)	(6)	404	GorC	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	LQL	GorC	1/5 YR
122-66-7	1,2-Diphenylhydrazine	(5)	(6)	4QL	GorC	1/5 YR
206-44-0	Fluoranimene	625	10.0	4QL	GorC	1/5 YR
86-73-7	Fluorène	625	10.0	4 QL	GorC	1/5 YR
119-74-1	Hexachlorobenzene	(5)	(6)	LQL	GorC	1/5 YR
87-68-3	Hexachforobutadiene	(5)	(6)	4 Q L	GorC	1/5 YR
77-47-4	Hexachlorocyclopentadiene	(5)	(6)	404	GorC	1/5 YR
67-72•1	Hexachloroethane	(5)	(6)	LOL	GorC	1/5 YR
193-39-5	Inderio(1,2,3-cd)pyrene	625	20.0	~QL	GorC	1/5 YR
78-59-1	Isophorona	625	10.0	4QL	GorC	1/5 YR
98-95-3	Nitrobenzene	625	10.0	LQL	G or C	1/5 YR
62-75-9	N-Nitrosodimethylamine	(5)	(6)	4QL	GorC	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	(5)	(6)	LQL	GorC	1/5 YR
86-30-6	N-Nitrosodiphenylamine	(5)	(6)	LOL	Gorc	1/5 YR
129-00-0	Pyrena	625	10.0	LQL	GorC	1/5 YR

Permit No. VA0024066 Attachment A Page 4 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL NO. 001

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL(1)	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
120-82-1	1,2,4-Trichlorobenzene	625	10.0	LQL	G or C	1/5 YR
ed recision had no associate (Carlotte and Carlotte and Carlotte and Carlotte and Carlotte and Carlotte and Car		VOLAT	ILES	Phille and the second s		
107-02-8	Acrolein	(5)	(6)	LQL	G	1/5 YR
107-13-1	Acrylonitrile	(5)	(6)	4 Q L	G	1/5 YR
71-43-2	Benzena	824	10.0	4QL	G	1/5 YR
75-25-2	Bromoform	624	10.0	LQL	G	1/5 YR
58-23-5	Carbon Tetrachioride	624	10.0	LQL	G	1/5 YR
108-90-7	Chlorobenzene (synonym = monochlorobenzene)	(5)	(6)	LQL	G	1/5 YR
124-48-1	Chloradibromomethane	624	10.0	LQL	G	1/5 YR
67-66-3	Chloraform	624	10.0	81 ppb	Ģ	1/5 YR
75-09-2	Dichloromethane	624	20.0	LQL	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	6 ppb	G	1/5 YR
107-06-2	1,2-Dichloroethane	824	10.0	LQL	G	1/5 YR
75-35-4	1,1-Dichloroethylene	524	10.0	LQL	G	1/5 YR
156-60-5	1.2-trans-dichloroethylene	(5)	(6)	LQL	G	1/5 YR
78-87-5	1,2-Dichloropropane	(5)	(8)	LOL	G	1/5 YR
542.75-6	1.3-Dichloropropene	(5)	(6)	4QL	G	1/5 YR
100-41-4	Ethylbenzene	624	10.0	LOL	G	1/5 YR
74-83-9	Methyl Bromide	(5)	(6)	4QL	G	1/5 YR
79-34-5	1,1.2,2-Tetrachloroethane	(5)	(6)	LOL	G	1/5 YR
127-18-4	Tetrachioroethylene	624	10.0	LQL	G	1/5 YR
10-88-3	Toluene	624	10.0	LOL	g	1/5 YR
79-00-5	1,1,2-Trichlorcethane	(5)	(6)	LQL	G	1/5 YR
79-01-6	Trichloroethy'ene	624	10.0	LQL	G	1/5 YR
75-01-4	Vinyi Chloride	624	10.0	LQL	G	1/5 YR
		RADIONU	JCLIDES			
	Strontium 90 (pCi/L)	(5)	(6)		G or C	1/5 YR
	Tritlum (pCVL)	(5)	(6)		GorC	1/5 YR

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DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MONITORING

OUTFALL NO 001

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY'S
	Beta Particle & Photon Activity (mrem/yr)	(5)	(6)	* 16.4 p Ci/L	G or C	1/5 YR
	Gross Alpha Particle Activity (pCi/L)	(5)	(6)	3.46	GorG	1/5 YR
-	AC	ID EXTRA	CTABLES	Control of the second s		
95-57-8	2-Chlorophenol	825	10.0	LQL	G or C	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	2 Q L	G or C	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	-QL	GorC	1/5 YR
51-28-5	2,4-Dinitrophenoi	(5)	(6)	400	GorC	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenal	(5)	(6)	LQL	G or C	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	LQL	G or C	1/5 YR
108-95-2	Phenol ⁽⁷⁾	625	10.0	4QL	G or C	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	< CO L	G or C	1/5 YR
	N	MISCELLA	NEOUS		n ferste van Stadischaft (199 1 1994), de 19 44	
16887-00-6	Chlorides	(5)	(6)	104 mg/L		1/5 YR
57-12-5	Cyanide, Total	335.2	10.0	LQL	G	1/5 YR
7783-06-4	Hydrogen Sulfide	(5)	(6)	1.1 mg/L	O	1/5 YR

William S. Shaw, Senior Project Manager Sydnor Hydro
Name of Principal Exec. Officer or Authorized Agent/Title

William S. Shaw July 3 2007

Signature of Principal Officer or Authorized Agent/Date

Locrify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

* - estimated at 1.312 mrem/yr based on 50 pCi/L delivers an exposure of 4 mrem/yr

Footnotes to Water Quality Monitoring Attachment A

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. For composite metals samples, the individual sample allquots shall either be filtered and preserved immediately upon collection, prior to compositing, or the composited sample shall be filtered and preserved immediately after compositing.

- (3) Frequency: 1/5 YR = once within one year following CTO issuance for the 4.0 MGD facility.
- (4) A specific analytical method is not specified. An appropriate method shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	204.1; 200.7; 204.2; 1639; 1638; 200.8
Arsenic	200.7; 200.9; 200.8; 1632
Barium	208 1: 200 7: 208.2: 200.8
Cadmium	213 1 200 7 213.2 200.9 200.8 1638 1639 1637 1640
Ghromium(***	218.1; 200.7; 218.2; 218.3; 200.9; 1639; 200.8
Chromium VI	218 A: 1636
Copper	220.1; 200.7; 220.2; 200.9; 1638; 1640; 200.8
fron	236.1: 200.7: 236.2
Lead	239.1; 200.7; 239.2; 200.9; 200.8; 1638; 1637; 1640
Manganese .	243.1; 200.7; 200.9; 243.2; 200.8
Mercury	200.7; 245.1; 200.8; 1631
Nickel	249.1; 200.7; 249.2; 1639; 200.9; 1638; 200.8; 1640
Salenium	200.7: 270.2: 200.8: 1638: 1639; 200.9
Silver	272.1; 200.7; 200.9; 272.2; 1638; 200.8
Žino .	289.1; 200.7; 1638; 1639; 200.8; 289.2

- (5) Any approved method presented in 40 CFR Part 136.
- (6) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.
- (7) Requires continuous extraction.
- (8) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for TBT may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].
- (9) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (10) The lab may use SW846 Method 8270C provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270C.



Lab ID:

0705643-01 (Water)

Client ID:

Christ Church School STW Effluent

Sampled Date/Time:

5/24/07 14:45

		Quant						
Analyte	Result	Limit	Units	Prepared	Analyzed	Method	Analyst	Note
Subcontracte to Universal Labora	tories, Inc.							
Fributyltin	<30	30	ng/L	6/7/07 22:41	6/7/07 22:41	GC/FPD	TK	
Microbac Labs, Baltimore								
Antimony	<0.5	0.5	mg/L	6/4/07 9:24	6/7.07 13:54	EPA 200.7	APS	
Arsenic	0.02	0.02	"	6/4/07 9:24	6/7/07 13:54		APS	
Cadmium	< 0.01	0.01	9	6/4.07 9:24	6/7:07 13:54	**	APS	
Chromium	< 0.02	0.02	"	6/4/07 9:24	6/7/07 13:54		APS	
Copper	0.014	0.01	**	6/4/07 9:24	6/7/07 13:54	**	APS	
Lead	< 0.04	0.04		6/4/07 9:24	6.7/07 13:54		APS	
Nickel	< 0.02	0.02	11	6/4/07 9:24	6/7/07 13:54		APS	
Selenium	< 0.04	0.04		6/4/07 9:24	6/7/07 13:54	**	APS	
Strontium	< 0.05	0.05		6/4/07 9:24	6/7/07 13:54	ii.	APS	
Thallium .	< 0.02	0.02	11	6/4:07 9:24	6/7/07 13:54	"	APS	
Zinc	0.054	0.02		6/4/07 9:24	6.7/07 13:54	**	APS	
Silver	< 0.02	0.02		6/4/07 9:24	6/7/07 13:54		APS	
Mercury	< 0.0002	0.0002	**	6/5/07 7:21	6/5/07 17:51	EPA 245.1		
				0/3/07 :.21	013:01 17:31	EFA 243.1	APS	

Note from Permit Writer - February 26, 2008

After receipt by DEQ of these test results for metals, a call was placed to the permittee's laboratory to find out whether the results were for Dissolved Metals (as requested by DEQ) or Total Recoverable Metals. The laboratory stated that the results were in Total Recoverable Form as the permittee did not request or perform filtering of the samples. The QL's requested by DEQ in Attachment A were not met for several of the test results, so it was decided that the permittee should be given the opportunity to retest for these metals, and the results would be required to be reported to the proper QL. The permittee was informed that only certain metals would need to be retested based on whether or not the required QL's were met in the original data submittal. It was assumed by the permit writer that if a test result for a total recoverable metal revealed a concentration below that of the DEQ-required QL's for the dissolved form of that metal, then the metal could be considered absent for permitting purposes.

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Lab ID:

0705643-01 (Water)

Client ID:

Christ Church School STW Effluent

Sampled Date Time:

Analyte	Rosyli	Quant	Unus	Dag	pared	And	V-2-1-2		
			- Cinis	110	hired	Analyzed	Method	Analysi	Note
Subcontracts to Universal L.	abarnjories, Inc.								
Tribulyltin	<30	30	ng/)_	6/7:07	22:41	6/7/07 22:41	GC/I PD	ΉK	
Microbac Lales, Baltimore									
Antimony	<0.5	0.5	mg/L	6:4/07	9.21	6/7/07 13.54	170 . 200 2		
Arsenic	0.02	0 02	"	6/4/07			EPA 200 7	APS	
Cadmium	< 0.01	0.01		6/4/07		6/7/07 13:54	,.	APS	
Chromium	<0.02	0.02				6/7/07 13 54		APS	
Copper	0.014	0.01		6/4/07		6/7/07 13.54	7	APS	
cml	<0.04	0.04	*1	6:4/07		6/7/07 13 54	*	APS	
Nickel	<0.02	0.02		6/4/07		6/7/07 13 54		APS	
Selemum	<0.04	0.02		6/4/07		6/7/07 13:54	6	APS	
Strantnini	< 0.05	0.05		6/4/07		6/7/07 13:54		APS	
halligni	<0.02	0.02	ir	6/4/07		6/7/07 13 54	•	APS	
Line	0.054			6/4/07	1200000000	6/7/07 13:54	1962	APS	
alvei		0 (12	11	6/4/07		6/7/07 13 54	•	APS	
Истецту —	<0.02	0.02		6/4/07		6/7/07 13 54	,	APS	
,	<0 0002	0 0002	•	6/5/07	721	6/5/07 17:51	EPA 245.1	APS	
Organochlorine Pesticides									
epone	0 00		J:g/L,	5/31/07	u 10	(/) 2//2 / 2 / 4			
delim	BQL	0 05	1.01.15	5/31/07		6/27/07 17:16	EPA 608	DSK	
pha-BHC	BQL	0.05	"			6/11/07 15:05		DSK	
eta-BHC	BQL	0.05	**	5/31/07		6/11/07 15:05	•	DSK	
elta-BHC	BQL	0.65	"	5/31/07		6/1/07 15 05	,	DSK	
Imma-HIIC	BQL	0.05		5/31/07		6/11/07 15:05	^	DSK	
ממט-יו-	BQL	0.05	110	5/31/07		6/11/07 15:05	*	DSK	
4'-(2(1));	BQL	0.05	11	5/31/07		6/11/07 15.05	•	DSK	
1()(),	BQL			5/31/07		6/11/07 15 05	м	DSK	
icldrin		0.05		5/31/07		6/11/07 15 05	4	DSK	
Idosulfan I	BQL	0.05	**	5/3 1/07		6/11/07 15:05	•	DSK	
idosulfon II	BQL	0.05	"	5/31/07	8 40	6/11/07 15 03	•	DSK	
idosulfan sult.	DQL	0 05	"	5/31/07	8.40	6/11/07 15:05	.N (DSK	
idua	13Q1,	0.05	1162	5/31/07	8 40	6/11/07 15 05	•	DSK	
den aldehyde	BQL	0 ()5	**	5/31/07	8 40	6/11/07 15 05	•	DSK	
	BQL	0.05	1	3/31/07	8 10	6/11/07 15 05	u	DSK	
ptachlor	BQL	0.05	17	5:31/07	0 1()	6/11/07 15:05		DSK	

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Lab ID:

0705643-01 (Water)

Client ID:

Christ Church School STW Effluent

Sampled Date Time:

Analyte	Rosuli	Quani Limit	Unite	Prepared	Analyzed	McIhod	Analyzi	Note
Organochlarine Pesticides				1				14012
Heptachlor epox de	BQL	0.05	ng/L	6.31.02.0.40				
Chlordane	13Q1_	1 00	1,8,0	5/31/07 8:40	6/11/07 15:05	EPA 608	DSK	
Loxaphene	BQL	1.00	25	5/31/07 8 40	6/11/07 15 05	1.99	DSK	
Aruclar 1016	BQL	0.50		5/3 /07 8:40	6/11/07 15:05		DSK	
Aroclor 1221	13(2)_	0.50	,,	3/31/07 8:10	6/11/07 15.05	^	DSK	
Vraclay 1232	nyı,	0.50	16	5/31/07 8 40	6/11/07 15 05		DSK	
Auctor 1242	BOL	0.50	1,	5/31/07 8.40	6/11/07 15:05	*	DSK	
Arnelor 1248	BQL		i.	5/31/07 8 40	6/11/07 15.05	•	DSK	
Moclor 1254	BOL	0.50		5/31/07 8:40	6/11/07 5:05		DSK	
troctor 1260	2 (100 to 100 to	0 50		3/31/07 8.40	6/11/07 15 05	*	DSK	
fethoxychlor	BQL	0.50		5/31/07 8:40	6/11/07 15:05	•	DSK	
fuex	BQL	0.50	300	5/31/07 8:40	6/11/07 15:05	6	DSK	
	BQL	0.50	"	3/31/07 8 40	6/27/07 17 16		DSK	
olatile Organic Compounds								
enzene	BQL	5	HB/L	6/1/07 14 33	6/2/07 12 00	SW846/#260B		
romobenzene	BQL	5	0	6/1/07 14:33	6/2/07 12:00	3 ** 640/#260 3	SS	
romochlorome nane	BQL	5	4	6/1/07 14 33	6/2/07 12 00		\$5	
comodicularo aethane	6	5	ti .	6/1/07 14.33	6/2/07 12:00		SS	
www.dom	BQL	5		6/1/07 14 33	6/2/07 12:00		SS	
omomethane	BQL	5		6/1/07 14:33			SS	
Batylhenzene	BQL	5	11.	6/1/07 14 33	6/2/07 12 00		SS	
c-Burythenzen+	BQL	5		6/1/07 (4:33	6/2/07 2 00		SS	
1-Buylbenzene	BQL	5	**	1	6/2/07 2:00	6	SS	
abon tetrachloude	BOL	S	t.	6/1/07 14-33	6/2/07 12:00	•	SS	
dorahenzene	13Q1.	5	ar .	6/1/07 14 33	6/2/07 12 00	•	SS	
loraethane	BOL	5	11	6/1/07 (4:33	6/2/07 12:00		SS	
lora(orm	81	5	"	6/1/07 14:33	6/2/07 12:00		SS	
foromethane	DQI.	5	ü	6/1/07 14 33	6/2/07 12:00	•	SS	
Infurototucne	BOL	5	**	6/1:07 14:33	6/2/07 12:00	7	SS	
Horotolucae	BQL	3		6/1/07 14:33	6/2/07 12:00		\$.9	
romochloron ethane	BQI.	5	4	6/1/07 14:33	6/2/07 12 ()0	•	SS	
-Dibromo-3-diloropropane	ST.			6/1/07 14:33	6/2/07 2 00	**	SS	
Oibromoeth.ne	BQL	5		6/1/07 14 33	6/2/07 12:00		SS	
comonethali:	BQL	5	IC.	6/1/07 14 33	6/2/07 12:00	*	??	
and the second s	BQL	.5	4*	6/1/07 14.33	6/2/07 12 00	t-	SS	

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Lab ID:

0705643-01 (Water)

Client ID:

Christ Church School STW Elluont

Sampled Date Time;

Analyte	tanta anto	Quant						
, usary c	Rasuli	Linni	Units	Prepared	Annlyzed	Method	Analysi	Note
Volutile Organic Compounds						***************************************		
1,2-Dichloroben rene	BQI.	5	118/1-	6/1/07 14.33	4/2/07 12 00			
1,3-Dichloropenzene	BOL	5	W. D. I.		6/2/07 [2:00	SW846/8260H	SS	
Dichlorodilluor methane	BQL	5		6/1/07 14 33	6/2/07 12.00	•	SS	
.4-Dichlorohonzene	BQL	5			6/2/07 12.00	•	SS	
1,1-Dichloroeth me	BQL	5	ý.	6/1/07 14.33	6/2/07 12 00	*	22	
2-Diehloroeth, ne	BQL	5	196	6/1/07 (4.33	6/2/07 12:00	^	2.2	
.1-Dichlorocth, ne	DQL	5	***	6/1/07 14:33	6/2/07 12 00	•	55	
as-1,2-Dichlarochene	BQI.	5	,	6/1/(17 14-33	6/2/07 12:00		2.2	
ins-1,2-Dichlo octhene	BQL	3	,,	6/1/07 1133	6/2/07 12:00	-	SS	
,2-Dichloropropane	BQL	. 5		6/1/07 14-33	6/2/07 12 00	•	SS	
3-Dichloropropane	BQL	5	4	6/1/07 14:33	6/2/07 12:00	•	SS	
2-Dichloropropane	BOL	5		6/1/07 14 33	6/3/07 12 00	•	5.5	
1-Dichtoropropene	BOL	j		6/1/07 (4.33	6/2/07 12 00	•	SS	
thy Ibanzone	BOL	52.6		6/1/07 14:33	6/3/07 12:00	•	SS	
exachlarabuta tene	Secretaria	.5	0	6/1/07 14 33	6/2/07 12:00	u	SS	
opropy thenzene	BQL	5	11	6/1/07 1433	6/2/07 2 00	A .:	SS	
Isopropy Itolic ne	BQL	5	4	6/1/07 14 33	6/2/07 12 00	•	SS	
ethylene chloride	BQL	5		6/1/07 14 33	6/2/07 12:00	9	88	
aphthalene	BQL	5	ri.	6/1/07 (4:3)	6/2/07 12:00	w.	SS	
l'impylhenzenc	BOL	5	11	6/1/07 14:33	6/2/07 12 00	*	SS	
yrene	BQL	5	"	6/1/07 14.33	6/2/07 12:00	34	SS	
1.1.2-Terrachi, methane	RÓL	5	"	6/1/07 14 13	6/2/07 12:00	•	SS	
2.2-Tetracht-roethane	DQI,	5		6/1/07 14 33	6/2/07 12:00	•	SS	
trachloroethese	BQL	5	11	6/1/07 14 33	6/2/07 2 00	•	SS	
luene	BOL	5	**	6/1/07 14:33	6/2/07 12:00	*	SS	
3- Prichlorofenzene	BQL	5		6/1/07 14 33	6/2/07 12 00		SS	
4-Trichlorobenzene	BQI.	5	1	6/1/07 14:33	6/2/07 12:00		SS	
.1- Frieldprochane	BQL	5		6:1/07 14:33	6/2/07 12:00		SS	
.2-Trichloros figue	BQL	ń		6/1/07 14 33	6/2/07 12:00	ň.	SS	
chloraethene	BQL	.5	11 .	6/1/07 14 33	6/2/07 2:00		SS	
	nQI.	5	7.0	6:1/07 14:33	6/2/07 12:00	Lig.	SS	
chlorathoromethane 3-Trichlorop opane	BQL	Ś	"	6/1/07 14 33	6/2/07 12:00		SS	
	BQL	5	и	6/1/07 14 33	6/2/07 2 00		SS	
4-Trimethy (Fenzene	JOE	5	i,	6/1/07 14 33	6/2/07 12:00	•	55	
ylontrie	BQL	25		6/1/07 14:33	6/2/07 12:00	и	SS	
- Dichlaropi ipene	AQ1.	5	ř	6/1/07 1-1:33	6/2/07 12:00	st.	S5	

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Lab ID:

Client ID:

0705643-01 (Water) Christ Church School STW Effluent 5/24/07 14:45

Sampled Date/Time:

	***	Qualit	W. #13 (100)					
14.1/10	Result	Lunu	Units	Prepared	Analyzed	Method	Amilyst	Note
Volatile Organic Compounds								
1.3,5-Trimethy Henzene	BQL	5	µg/1_	6/1/07 14:33	6/2/07 12:00	SW846/8260B	SS	
Vinyl chloride	BQL	5	**	6/1/07 14:33	6/2/07 12:00	•	SS	
ni,p-Xylene	DQL	10	•,	6/1/07 14:33	6/2/07 12 00		SS	
o-Xylene	BQL	5	11	6/1/07 14:33	6/2/07 12 00		SS	
Acrolem	BQL	25	Ü	6/1/07 14:33	6/2/07 12:00		SS	
Wet Chemistry								
Chlorule	104	1	mg/L	6/8/07 11 00	6/8/07 15 01	SM18/4500-CIF	TG	
Sulfide	1.1	0.5	q	5/29/07 18 20	5/29/07 18:20	SM18/4500-S-2 F	JCM	
Subcontracted Analysis (Benchmark	(Analytics)							
Gross Alpha	BQL	6.79	pCi/L	6/3/07 10,00	6/7/07 0:00	EPA 900 0	sub	A-01, \
Gross Hetu	16.4	6.41	11	6/3/07 10 00	6/7/07 0 00	•	suh	0 A-01c, V
Urannını	BQI.	0.4	310	5/31/07 9:00	6/5/07 0:00	EPA 200 8	syh	0
Uranum	BOL.	06	118/1_	5/31/07 9 00	6/5/07 0 00	•	aub	
Radinn-236	BQL	0.60	pCi/L	5/31/07 10 30	6/9/07 0 00	EPA 903 0/904 0	sub	A-01
Radiom-228	BQL	0.53	ч	5/31/07 10 20	6/5/07 0:00	•	tub	A-01
Subcontracted to Analytics - Inorga	nics							
Cymrde	<0.02	0.02	mg/L	6/5/07 0:04	6/5/07 10:04	SM4500 CN E	MES	
Subcontracted to Analytics - Organi	ica							
1.2.4-Trichlori-benzene	<10	10	IIB/L	\$/30/07 11:00	6/8/07 15 15	EPA 625	MBC	
1.2-Diphenyllis drazine	<40	40	п	5/30/07 11 00	6/8/07 15-15	•	MBC	
1,2-Dichlorobenzene	<10	10	11	5:30/07 11 00	6/8/07 15:15	*	MBC	
1,3-Dichlorobenzone	<10	10		\$/30/07 11:00	6/8/07 15.15		MBC	
1,4-Dichtoropenzene	<10	10		5/30/07 11 00	6/8/07 15 15		MBC	
2.4.6-Trichlor-phenol	<10	10		5/30/07 11:00	6/8/07 15:15	•	MBC'	
2,4-Djchlorophenol	<10	10	11	5/30/07 11:00	6/8/07 15 15	•	мвс	
2,4-Dimethylphenol	<10	10		5/30/07 [1:00	6/8/07 15:15		MBC	
2,4-Duntropherol	<40	40		5/30/07 11 00	6/6/07 15.15		MBC	
2.4-Digitrotolisens	<10	10	11	5/30/07 11:00	6/8/07 15.15	•	мвс	
2,6-Duntrojologue	<10	10	Ÿ.	3/30/07 1:00	6/8/07 15:15*	*	MBC	
2-Chloronaphili dene	<10	10		5/10/07 11 00	6/8/07 15 15		мвс	

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Lab ID:

0705643-01 (Water)

Client ID:

Christ Church School STW Effluent

Sampled Date/Time:

oralyie	Result	Quint Limit	Unils	Propared	A columnia	M. K. 2		
	71001111		Cinis	ropareu	Analyzed	McIhad	Analysi	Note
ubcontracted to Analytics - Organics								
-C'hlarophemit	<10	10	MB/I_	5/30/07 11 00	6/8/07 15:15	EPA 625	MBC	
-Niprophenol	<10	10	**	5/30/07 11 00	6/8/07 15:15	a	мвс	
3'-Dichlorolzidine	<10	10		5/30/07 11:00	6/8/07 15:15	4	MBC	
6-Dautro-2-a ethylphenol	<40	40	in:	5/30/07 11:00	6/8/07 15 15		MBC	
-Bromuphens phenylether	< 10	10		5/20/07 11 00	5/8/07 15.15	(P)	MUC	
-Chloro-3-m-chylphenol	<10	10		5/30/07 11 00	6/8/07 15:15		MBC	
Chlorophens inhenylether	<10	10		5/30/07 11 00	6/8/07 15 15	•	MBC	
Nurophenol	<40	40	21	5/30/07 11:00	6/8/07 15:15	4	MBC.	
conaphthen	<10	10	n.	5/30/07 11 00	6/H/U7 15 15	•	MBC	
cenaphthyleac	<10	10	91	5/30/07 11:00	6/8/07 15 15	•	MBC	
mhracene	<10	10	и ,	5/30/07 [1:00	6/8/07 15:15	,,	MBC	
enzidine	<40	40		5/30/07 11:00	6/8/07 15:15	4	MBC	
enzył alcohol	<10	10	2	\$/30/07 11:00	6/8/07 15.15		MBC	
cuzo(a)unthacene	<10	10		5/30/07 11 00	6/8/07 15:15	*	MBC	
enzo(a)pyrenc	<10	10	11	5/30/07 11:00	6/8/07 3:15	•	MBC	
enzo(b)lluca.cothene	<10	10	¥	5/30/07 [1:00	6/8/07 15:15		мвс	
then(g,h,i)perylene	< 0	10	n ·	5/30/07 11:00	6/8/07 15:15	•	MBC	
enzo(k)Nuoramhene	<10	10	ű	5/30/07 1-00	6/8/07 15:15	*	MBC	
s(2-chloroet) oxy)methane	<10	10	и	5/30/07 11:00	6/8/07 15:15		MBC	
s(2-chlorochyl)ether	<10	10	- 0	5/30/07 11.00	6/8/07 15 15	-	MBC	
s(2-chloror apropyl)ether	<10	10	11	5/30/07 11 00	6/8/07 15:15		MBC	
s(2-erhyllic oct)phthalate	<10	10		5/30/07 11:00	6/4/07 15:13		MBC	
dyl benzyl plahalate	<10	10		5/30/07 11 00	6/H/07 15.15	•	MBC	
IIV SCIIC	<10	10	.00	5/30/07 11:00	6/8/07 15:15	,	MBC	
herv(a,h)and nicene	<10	10		5/30/07 11.00	6/8/07 15:13	,	MBC	
ethyl phih. 'ne	<10	10	. Fig.	5/30/07 11:00	6/8/07 15:15		MBC	
methyl phinalac	<1()	10	et	5/30/07 11 00	6/8/07 15:15	4	MBC	
a-butyl phonalate	<10	10		5:30/07 11 00	6/8/07 15:15			
sn-octyl placalate	<10	10		5/30/07 (1:00	6/8/07 15:15	•	MBC	
auanthene	<10	10	11	5/30/07 11:00	6/8/07 15 15	*	MBC.	
torene	<10	10	10	5/30/07 11:00	6/8/07 15:15		MBC	
vachlorobenzene	<10	10		\$/30/07 11:00	6/8/07 15 15			
xachlomes dopentadiene	<10	10	,,	5/30/07 [1:00	6/8/07 15:15		MBC MBC	

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Lab ID;

0705643-01 (Water)

Client ID:

Christ Church School STW Effluent

Sampled Date/Time:

5/24/07 14:45

Analyte	Rosult	Quant	Units	Prepared	Annlyzed	Method	Analysi	Note
				- April Co	Alliniy 200	MICHIO	Boutyst	NOIE
Subcontracted to Analytics - Organia	c s							
Hexachlorobitadiene	<10	10	µg/ _	5/30/07 11 00	6/8/07 15.15	EPA 625	MBC	
Hexachtoroethane	<10	10	e	5/30/07 11:00	6/8/07 15 15	•	MBC	
Indeno(1,2,5 -cd)pyrene	< 10	10	346	5/30/07 11:00	6/8/07 15:15	H	MBC	
sophorone	<10	10		5/30/07 11.00	6/8/07 15-15	2	MBC	
Naphthulene	<10	10		5/30/07 1:00	6/8/07 15 15		MBC	
Nirobenzene	<10	10		5/30/07 11:00	6/8/07 15:15		MBC	
N-Nitroso-di-r propylamine	<1()	10		\$/30/07 11:00	6/8/07 15-15		MBC	
N-Numsodinicity tanine	<10	10		5/30/07 11 00	6/8/07 15 15		MBC	
S-Nitrosodip iplamine	<10	10	11	5/30/07 11:00	6/N/07 15:15	**	MBC	
entachloropi of	<40	40		5/30/07 11:00	6/8/07 15:15	-	мвс	
herauthiene	<10	10		5/30/07 11.00	6/8/07 15.15		MBC	
herof	<10	10	n	5/30/07 11:00	6/8/07 15 15	-	MBC	
yrene	<10	10	11	5/30/07 11:00	6/8/07 15 15	•	MBC	
				and the second second	ರಾವಾರಾ ವರ್ಷಿಕ		PIDC	
Subcontracted to Air, Water & Soil L	aporatories							
lexavident C. rantigm	<0.01	0.01	mg/L	5/25/07 14 00	5/25/07 4:00	SW7196A	DMH	

Notes and Definitions

V-01

high solids in sample

Note 1

13 - Diphenyllidrazine evillyated by TIC search

Note 2

Is azidine evaluated by TIC scarch

myt. · militarims per Liter

pgil. - micrograms per Liter

pci// - previous per Liter BQL - Below the Quantitation Limit

mg/kg = milligrams per kilogram

puris per million

CPU/ml . Colony forming units per millitier

su a standard units

NTU = Nephelometric Turbidity Units

MPN/100ml. ~ Most Prohable Number per 100 milliliters



Lab ID:

0709480-02 (Water)

Client ID:

STW Effluent-Christ Church

Sampled Date/Time:

9/20/07 9:00

		Quant						
Analyte	Kesu.t	Limit	Units	Prepared	Analyzed	Method	Analyst	Notes
Microbac, Chicagoland				gg				
Caamium	<1	1	µg/L	10/1/07 7:30	10/1/07 17 21	EPA 200.8	SAA	•
Chromium	4	4	n	10/1/07 7:30	10/1/07 17 21	90	SAA	
Copper	13	0 2		10/1/07 73/)	10/1/07 17 21	•	SAA	
Lend	0.26	1		10/1/07 7 30	10/1/07 17:21	*1	SAA	
Nickel	2.7	1	10	10/1/07 7 30	10/1/07 17:21	**	SAA	
Selenium	<1	1	P	10/1/07 7 30)	10/1/07 17:21	n	SAA	
Silver	<1	1	P	10/1/07 7 3.)	10/1/07 17:21	**	SAA	••
Zinc	45	1.2	P	10/1/07 73-)	10/1/07 17:21	я	SAA	
Mercury	<0 2	0.2	н	9/28/07 10 15	9/28/07 14:45	EPA 245.1	SAA	

Notes and Definitions

mg/L = milignins per Liter

mg/kg = milligrams per kilogram

µg/L = micrograms per Utter pCi/L = picocuries per Liter ppin - parts per inition

CFU/mL = Colony forming units per mililiter

BQL = Below the Quantitation Limit

"No Cadmium desected to the MDL of 0 005 µg/L.

** No Silver detected to the MDL of 0 001 µg/L



su = standard units

NTU = Nephelometric Turbidity Units

MPN/100mL = Most Probable Number per 100 millil ters

DMR Data (pH)

90%tile 10%tile

Due Date	Quant Avg	Quanti Max	Conc Avg	Conc Min	Conc Max
10-Oct-02	NULL	NULL	NULL	7.84	8.31
10-Nov-02	NULL	NULL	NULL	7.83	8.2
10-Dec-02	NULL	NULL	NULL	7.79	8.05
10-Jan-03	NULL	NULL	NULL	7.65	8.18
10-Feb-03	NULL	NULL	NULL	7.68	8.2
10-Mar-03	NULL	NULL	NULL	7.52	8.02
10-Apr-03	NULL	NULL	NULL	7.37	7.87
10-May-03	NULL	NULL	NULL	7.43	7.76
10-Jun-03	NULL	NULL	NULL	7.38	7.64
10-Jul-03	NULL	NULL	NULL	7.3	7.6
10-Aug-03	NULL	NULL	NULL	7.42	7.79
10-Sep-03	NULL	NULL	NULL	7.5	7.8
10-Oct-03	NULL	NULL	NULL	6.8	7.77
10-Nov-03	NULL	NULL	NULL	7.45	7.83
10-Dec-03	NULL	NULL	NULL	7.26	7.64
10-Jan-04	NULL	NULL	NULL	7.33	7.71
10-Feb-04	NULL	NULL	NULL	7.1	7.78
10-Mar-04	NULL	NULL	NULL	7.26	7.86
10-Apr-04	NULL	NULL	NULL	7.41	7.69
10-May-04	NULL	NULL	NULL	6.93	7.75
10-Jun-04	NULL	NULL	NULL	7.2	7.63
10-Jul-04	NULL	NULL	NULL	7.27	7.58
10-3ui-04 10-Aug-04	NULL	NULL	NULL	7.03	
					8.02
10-Sep-04	NULL	NULL	NULL	7.25	9.45
10-Oct-04	NULL	NULL	NULL	7.66	8.12
10-Nov-04	NULL	NULL	NULL	7.61	8.2
10-Dec-04	NULL	NULL	NULL	7.79	8.27
10-Jan-05	NULL	NULL	NULL	6.14	8.14
10-Feb-05	NULL	NULL	NULL	7.59	8.42
10-Mar-05	NULL	NULL	NULL	7.3	9.08
10-Apr-05	NULL	NULL	NULL	7.58	7.94
10-May-05	NULL	NULL	NULL	5.99	7.91
10-Jun-05	NULL	NULL	NULL	7.56	8.02
10-Jul-05	NULL	NULL	NULL	7.43	7.96
10-Aug-05	NULL	NULL	NULL	7.51	8.1
10-Sep-05	NULL	NULL	NULL	7.42	8.19
10-Oct-05	NULL	NULL	NULL	7.48	7.95
10-Nov-05	NULL	NULL	NULL	7.48	7.88
10-Dec-05	NULL	NULL	NULL	7.35	8.07
10-Jan-06	NULL	NULL	NULL	7.5	7.96
10-Feb-06	NULL	NULL	NULL	7.38	8.06
10-Mar-06	NULL	NULL	NULL	7.58	7.84
10-Apr-06	NULL	NULL	NULL	7.45	7.87
					7.82
10-May-06	NULL	NULL	NULL	7.35	
10-Jun-06	NULL	NULL	NULL	7.29	7.8
10-Jul-06	NULL	NULL	NULL	7.34	7.82
10-Aug-06	NULL	NULL	NULL	7.4	7.89
10-Sep-06	NULL	NULL	NULL	7.48	8.58
10-Oct-06	NULL	NULL	NULL	7.5	8.3
10-Nov-06	NULL	NULL	NULL	7.51	7.98
10-Dec-06	NULL	NULL	NULL	7.65	8.03
10-Jan-07	NULL	NULL	NULL	7.7	7.89
10-Feb-07	NULL	NULL	NULL	7.5	8
10-Mar-07	NULL	NULL	NULL	7.68	7.91
10-Apr-07	NULL	NULL	NULL	7.55	8.1
10-May-07	NULL	NULL	NULL	7.51	7.94
10-Jun-07	NULL	NULL	NULL	NULL	NULL
10-Jul-07	NULL	NULL	NULL	NULL	NULL
10-3ui-07	NULL	NULL	NULL	NULL	NULL
			THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED	The second secon	
10-Sep-07	NULL	NULL	NULL	NULL	NULL
10-Oct-07	NULL	NULL	NULL	NULL	NULL
				7.68	
				7.15	7



June 27, 2008

Mr. Jeremy Kazio, Environmental Specialist II Department of Environmental Quality Piedmont Regional Office 4949-A Cox Road Glen Allen, Virginia 23060

Subject: Christchurch School - VPDES Permit No. VA 00024066

Dear Mr. Kazio:

As discussed during our recent meeting regarding the draft permit, I am herewith providing comments on the draft VPDES permit for the wastewater treatment plant serving Christchurch School.

I am taking this opportunity to comment on Part I, Section A, which requires that monitoring for cyanide be conducted every 6 months during the 5-year life of the permit. We have recently collected and had analyzed an effluent sample for cyanide. The sample was analyzed by a certified lab to a QL of 0.01 mg/L, and the results indicated that no cyanide was detected. A copy of the analysis sheet is enclosed for your information.

Based on this result, we are requesting that the monitoring requirement for cyanide be removed from the final permit.

If you have any questions, please do not hesitate to contact me at 643-2725, extension 226.

Sydnor Hydro, Inc.

Sincerely,

W. S. Shaw, P.E.

Senior Project Manager

Cc: Dennis Gunn, Director of Operations, Christchurch School

Page 1 of 1

8043530330

06/27/2008 00:31 FAX 8043530330

MICROBAC

Ø001



Microbac Laboratories, Inc.

Richmond Division 2028 Dabney Road, Sulta E-17 @ Richmond, VA 23230 Telephone (804) 363-1689 & FAX (804) 353-0339 & www.microbec.com elab: www microbactichmond comintemantemal

CERTIFICATE OF ANALYSIS

June 26, 2008

LABS:

0806388

CLIENT:

Sydnor Hydra Inc. P.D. Box 27186 Richmond VA, 23261 Gregg Arrington

PROJECT:

Christ Church Wastewater

PROJECT NO.1

77770-1

SAMPLED BY

Gregg Arrington 06/19/08

RECEIVEDA

(101eW) 10-88E3089

Lab ID: Client YD:

Christ Church WWTP EMuone

Sampled Date/Time:

6/19/09 12:50

Acadyiu	Result	Quant Limit	Unit6	Propered	Apulyxad	Mothad	Analysi	Notes	
Wel Chemistry (Vanide	BQL	0.01	mg/L	6/14/08 0 00	G/26/QH 13:20	SM1 W4 500	GLP	Cì	•

Notes and Definitions

CH

Subcontracted to Microbia Laboratorica, CH

ing/L = milligrams per Lise

milligrams per kilogram my/kg "

with parpulit = me

micrograms por Liter HE/L -

paris per infilion pam -

NTU - Nephclomeric Turbidity Units

PCITL - picocumo per LITT

CPUIML - Colony Coming units occ milition

MPN/Jount - Max Probable Number on 100 millitimes

BQL - Bidow the Quantitation Linus

Responsed mentiles relate only to the samples analyzed. (Is received by the inharciery.

Inda A Buland

Thus report shall not be regradueed, wholly or in part, without the content of Microbac Laborarories, (no - Richmond Division,

Audrey Brubeck Vechnical Manager CERTIFICATIONS!

A THERMOTHES WAYOU - GOLGO HVKK-virio Districti-d. mejelj - 558 Bohjal Cherchier Dalice. Ojo/cool ip istologos Nobjal Cherchier Diging - 435 Amininte Dalientere affallol - 00/100

MSTRANTI DATA SOURCE REPORT:

As applicable to Permit Limitations found in Part I.A.1 and Part I.A.2 of the 2008 permit reissuance.

Stream In	formation
Mean Hardness	
90% Temperature (annual)	
90% Temperature (wet season)	All Stream Information is the same as Effluent Information due to lack
90% Maximum pH	of flow in receiving waterbody.
10% Maximum pH	
Tier Designation	Flow Frequency Analysis – May 4, 2007
Stream	ı Flows
All Data	Flow Frequency Analysis – May 4, 2007
Mixing In	formation
All Data	Dry ditch discharge, 100% mix assumed.
Effluent Ir	nformation
Mean Hardness	Data provided by permittee in application.
90% Temperature (annual)	Data provided by permittee in application.
90% Maximum pH	DMR data
10% Maximum pH	DMR data
Discharge Flow	STP Design Flow

Data Location:

Effluent Information – Attachment E Flow Frequency Analysis- Attachment D

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name:

Christchurch Schools

UT Rappahannock River

Receiving Stream:

Permit No.: VA0024066

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information
Mean Hardness (as CaCO3) =	28 mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =
90% Temperature (Annual) =	27.7 deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =
90% Temperature (Wet season) =	19.1 deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =
90% Maximum pH =	8.285 SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =
10% Maximum pH =	US 7.7 SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =
Tier Designation (1 or 2) =	-	3005 =	0 MGD			Discharge Flow =
Public Water Supply (PWS) Y/N? =	u	Harmonic Mean =	0 MGD			
Trout Present Y/N? =	u	Annual Average =	0 MGD			
Early Life Stages Present Y/N? =	y					

27.7 deg C 19.1 deg C 8.285 SU 7.7 SU 0.04 MGD

28 mg/L

Parameter	Background		Water Qu.	Water Quality Criteria		7	Wasteload Allocations	Allocations		A	ntidegradati	Antidegradation Baseline		Antic	egradation	Antidegradation Allocations		2	ost Limiting	Most Limiting Allocations	
(ng/l unless noted)	Conc.	Acute	Chronic	Chronic HH (PWS)	Ŧ	Acute	Chronic HH	HH (PWS)	Ŧ	Acute	Chronic	HH (PWS)	Ŧ	Acute	Chronic HI	HH (PWS)	壬	Acute	Chronic	HH (PWS)	Ŧ
Acenapthene	0	1	1	na	2.7E+03	1	1	na	2.7E+03		ı	1	1	ı	1	1	1	:	ı	na	2.7E+03
Acrolein	0	1	ı	na	7.8E+02	ī	ı	na	7.8E+02	ı	ı	ı	ī	ı	ı	ı	1	1	1	na	7.8E+02
Acrylonitrile ^c	0	1	1	na	6.6E+00	I	1	na	6.6E+00	ı	ī	1	1	ı	1	1	1	ı	1	na	6.6E+00
Aldrin ^c	0	3.0E+00	E	na	1.4E-03	3.0E+00	1	na	1.4E-03	1	1	1	1	1		ı	1	3.0E+00	:	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	4.85E+00	6.68E-01	па	ı	4.9E+00	6.7E-01	na	1	1	1	ī	1	I	ī	1	1	4.9E+00	6.7E-01	na	ı
(High Flow)	0	4.85E+00	1.16E+00	na	1	4.9E+00	1.2E+00	na	ı	ı	1	1	1	ı	1	1	1	4.9E+00	1.2E+00	na	,
Anthracene	0	1	1	па	1.1E+05	ī	1	na	1.1E+05	ı	1	1	1	1	1	ī	1	:	ī	na	1.1E+05
Antimony	0	1	I	na	4.3E+03	ı	1	na	4.3E+03	ı	ı	1	1	1	ı	ī	ī	ī	1	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	ı	3.4E+02	1.5E+02	na	ı	ľ	ı	ľ	1	ı	1	1	1	3.4E+02	1.5E+02	na	ı
Barium	0	ı	ı	na	ı	ī	ı	na	1	ı	1	1	1	1	1	1	1	;	:	na	;
Benzene ^c	0	1	1	na	7.1E+02	1	1	na	7.1E+02	1	1	3	1	1	ı	1	1	ī	ī	па	7.1E+02
Benzidine ^c	0	1	1	na	5.4E-03	1	1	na	5.4E-03	ı	1	ı	1	1	ı	I	1	ı	ï	na	5.4E-03
Benzo (a) anthracene ^c	0	1	1	na	4.9E-01	ı	ı	na	4.9E-01	1	ı	ı	1	ı	ı	ï	1	:	1	na	4.9E-01
Benzo (b) fluoranthene ^c	0	1	ŧ	па	4.9E-01	1	ı	na	4.9E-01	ı	ľ	r	1	1	1	1	1	1	1	na	4.9E-01
Benzo (k) fluoranthene ^c	0	ı	1	па	4.9E-01	ı	1	na	4.9E-01	ı	1	1	1	1	1	1	1	1	1	na	4.9E-01
Benzo (a) pyrene ^c	0	1	1	na	4.9E-01	ı	1	na	4.9E-01	1	1	1	1	ı	1	1	1	ı	ī	na	4.9E-01
Bis2-Chloroethyl Ether	0	ı	1	na	1.4E+01	ı	1	na	1.4E+01	ı	ī	1	1	1	I	:	1	ı	ī	na	1.4E+01
Bis2-Chloroisopropyl Ether	0	ı	ı	na	1.7E+05	ı	ı	na	1.7E+05	ı	1	ı	1	ı	ı	1	1	ı	ı	na	1.7E+05
Bromoform ^c	0	1	1	na	3.6E+03	ı	ı	na	3.6E+03	ı	1	1	1	1	1	1	1	1	1	na	3.6E+03
Butylbenzylphthalate	0	ı	1	na	5.2E+03	1	ı	na	5.2E+03	1	1	1	1	1	1	Ī	ı	1	1	na	5.2E+03
Cadmium	0	9.3E-01	4.2E-01	na	;	9.3E-01	4.2E-01	na	1	1	1	3	1	1	1	1	1	9.3E-01	4.2E-01	na	ı
Carbon Tetrachloride ^c	0	1	1	na	4.4E+01	I	ı	na	4.4E+01	ı	ı	I	ı	ı	1	1	1	1	ı	na	4.4E+01
Chlordane ^c	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	1	1	£	1	1	į.	1	1	2.4E+00	4.3E-03	па	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	ı	8.6E+05	2.3E+05	na	1	E	1	ı	ı	ı	E	1	1	8.6E+05	2.3E+05	na	1
TRC	0	1.9E+01	1.1E+01	na	1	1.9E+01	1.1E+01	na	ı	1	1	1	1	1	1	1	1	1.9E+01	1.1E+01	na	;
Chlorobenzene	0	L	1	na	2.1E+04	1	1	na	2.1E+04			3	1	,	1	1	1	,	ı	na	2.1E+04

Darameter	Rackground		Water Orgity Criteria	ity Criteria			Wasteload A	llocations		A	Antidegradation Baseline	n Baseline		Antik	Antidegradation Allocations	Allocations		2	Most Limiting Allocations	Allocations	
(ng/l unless noted)	Conc.	Acute	Chronic HH (PWS)	HH (PWS	HH (6	Acute	Chronic HH (PWS)	H (PWS)	Ŧ	Acute	Chronic HH (PWS)	H (PWS)	Ŧ	Acute	Chronic HH (PWS)	4 (PWS)	Ŧ	Acute	Chronic	HH (PWS)	H
Chlorodibromomethane ^C	0	Ē	ı	na	3.4E+02	1	1	na	3.4E+02	***	1	1	1	1	1	1	1	,	ı	na	3.4E+02
Chloroform ^c	0	ı	ı	na	2.9E+04	1	1	na	2.9E+04	1	1	1	1	ı	1	ī	1	1		na	2.9E+04
2-Chloronaphthalene	0	1	1	па	4.3E+03	ı	1	na	4.3E+03	1	1	1	1	ı	1	1	ı	ı	ï	па	4.3E+03
2-Chlorophenol	0	1	1	na	4.0E+02	I	1	na	4.0E+02	1	ī	1	1	ī	ı	ī	ı		r	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	ı	8.3E-02	4.1E-02	na	í	I	ı	ı	1	ı	1	1	1		4.1E-02	па	:
Chromium III	0	2.0E+02	2.6E+01	na	1	2.0E+02	2.6E+01	na	1	1	1	1	1	ı	1	1	1		2.6E+01	na	
Chromium VI	0	1.6E+01	1.1E+01	na	1	1.6E+01	1.1E+01	na	1	1	1	1	1	1	1	1	1	1.6E+01	1.1E+01	na	:
Chromium, Total	0	1	1	na	1	ı	1	na	ı	1	1	1	1	ı	ı	1	1	1	ī	na	ı
Chrysene ^C	0	1	1	na	4.9E-01	1	1	па	4.9E-01	1	1	1	1	ī	ı	1	1	ı	ı	na	4.9E-01
Copper	0	4.1E+00	3.0E+00	na	1	4.1E+00	3.0E+00	na	ı	1	ī	ľ	:	ľ	I	ī	1	4.1E+00	3.0E+00	na	1
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	ı	ı	ı	ı	1	1	1	1	2.2E+01	5.2E+00	na	2.2E+05
pDDD c	0	1	1	na	8.4E-03	ı	1	па	8.4E-03	1	1	ı	1	1	1	1	1	ı	ı	na	8.4E-03
DDE c	0	1	1	na	5.9E-03	1	1	па	5.9E-03	1	1	1	1	ī	ı	1	1	ı	ı	na	5.9E-03
DDTC	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	1	ī	ı	1	ı	1	ı	1	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	1	1.0E-01	na	1	1	1.0E-01	na	ı	1	ī	1	1	ı	ı	1	ı	1	1.0E-01	na	1
Dibenz(a,h)anthracene c	0	1	1	na	4.9E-01	ı	1	na	4.9E-01	ı	ť	ı	1	1	1	1	1	1	1	na	4.9E-01
Dibutyl phthalate	0	1	1	na	1.2E+04	1	1	na	1.2E+04	ı	ı	1	1	1	ı	ī	1	1	1	па	1.2E+04
Dichloromethane	(6	20,10				7 8 5 7 0 7			,		1						na na	1.6E+04
(Memylene Chlonde)	0	1	1	na	1.0E+04	ı	1	<u>a</u>	10 10	ı	ı										4 75 104
1,2-Dichlorobenzene	0	1	ı	na	1.7E+04	ı	1	na	1./E+04	ı	ı	ı	ı	ı	ı	1			:	B 6	1.7 1.04
1,3-Dichlorobenzene	0	L	E	па	2.6E+03	1	Ī	na	2.6E+03	1	1	1	ı	ı	ı	ı	1	ı		na	Z.6E+U3
1,4-Dichlorobenzene	0	1	1	na	2.6E+03	1	1	na	2.6E+03	ı	1	ı	ı	1	ı	ī	1	ı	ı	na	2.6E+03
3,3-Dichlorobenzidine ^C	0	1	1	na	7.7E-01	1	1	na	7.7E-01	1	1	1	ı	ı	1	ï	I	:	ı	na	7.7E-01
Dichlorobromomethane ^c	0	1	1	na	4.6E+02	1	ī	na	4.6E+02	ı	Ē	1	ı	ï	ı	1	1	ı	ı	па	4.6E+02
1,2-Dichloroethane ^c	0	1	1	na	9.9E+02	1	ī	na	9.9E+02	ı	L	1	1	ı	1	1	3	1	1	na	9.9E+02
1,1-Dichloroethylene	0	I	E	na	1.7E+04	1	1	na	1.7E+04	1	1	1	1	ı	1	1	1	ı	1	na	1.7E+04
1,2-trans-dichloroethylene	0	E	E	па	1.4E+05	1	1	na	1.4E+05	1	1	1	1	ı	ı	1	1	1	1	na	1.4E+05
2,4-Dichlorophenol	0	1	1	na	7.9E+02	1	ī	na	7.9E+02	1	1	1	ı	ı	ı	1	1	ı	ı	na	7.9E+02
2,4-Dichlorophenoxy	0	1	1	na	1	1	1	na	1	1	1	ı	1	ı	1	1	1	ı	ı	na	
1,2-Dichloropropane ^c	0	3	1	na	3.9E+02	1	1	na	3.9E+02	1	ı	I	1	1	1	1	t	1	1	na	3.9E+02
1,3-Dichloropropene	0	1	1	na	1.7E+03	ì	1	na	1.7E+03	ı	Ĺ	ľ	1	1	1	1	1	1	ı	na	1.7E+03
Dieldrin ^c	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	1	.1	1	1	1	1	1	1	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	1	ı	na	1.2E+05	1	1	na	1.2E+05	;	1	1	1	1	1	1	1	1	ï	na	1.2E+05
Di-2-Ethylhexyl Phthalate ^c	0	1	1	na	5.9E+01	1	1	na	5.9E+01	1	ï	1	1	ı	ı	1	ı	ı	ı	na	5.9E+01
2,4-Dimethylphenol	0	3	1	na	2.3E+03	ı	Ĩ	na	2.3E+03	ı	ı	£	1	ı	ı	1	ſ	1	1	na	2.3E+03
Dimethyl Phthalate	0	1	1	na	2.9E+06	ı	ï	na	2.9E+06	ı	ľ	ı	1	1	1	1	1	:	1	na	2.9E+06
Di-n-Butyl Phthalate	0	1	1	na	1.2E+04	ı	ī	na	1.2E+04	1	1	1	1	1	1	1	1	1		na	1.2E+04
2,4 Dinitrophenol	0	E	1	na	1.4E+04	1	1	na	1.4E+04	1	1	1	1	ı	1		1	ı	ı	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	I	1	na	7.65E+02	ı	1	na	7.7E+02	1	1	1	1	ī	Ī	Ē	ı	:	ı	na	7.7E+02
2,4-Dinitrotoluene ^C	0	1	1	na	9.1E+01	1	ī	na	9.1E+01	I	ı	I.	ı	ı	Ē	Ē	1	ı	ı	na	9.1E+01
tetrachlorodibenzo-p-dioxin)																	100				6
(bdd)	0	1	1	па	1.2E-06	1	ı	na	an i	ı	ı	1	1	ı	1	ı	ı	:	:	n c	E AE TO
1,2-Diphenylhydrazine	0	į	ı	na	5.4E+00	1	L	na	5.4E+00	ı	1	1	1	1		ı			: !	<u> </u>	00.1
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	ı	ı	ı	1	1	1	1	ı		5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	:	1	1	1	1	1	1	1	2	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	ı	1	na	2.4E+02	1	1	na	2.4E+02	I	1	1	1	ı	ı	Ī			: !	na	2.4E+02
Endrin	0 (8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na S	8.1E-01	1	ī	ſ	1	1	ı	ı	1 1	8.6E-02	3.6E-02	a c	8.1E-01
Endrin Aldehyde	0	1	1	па	8.1E-01	1	1	g	8.1E-01	1	1	-	-			0	1		:	ā	0.15-21

Parameter	Background		Water Quality Criteria	y Criteria			Wasteload Allocations	llocations		4	Antidegradation Baseline	on Baseline		An	Antidegradation Allocations	Allocations		_	Most Limiting Allocations	Allocations	
(ng/l unless noted)	Conc.	Acute	Chronic HH (PWS)	IH (PWS)	Ŧ	Acute	Chronic HH (PWS)	H (PWS)	Ŧ	Acute	Chronic HH (PWS)	(PWS)	Ŧ	Acute	Chronic	HH (PWS)	Ŧ	Acute	Chronic H	HH (PWS)	Ŧ
Ethylbenzene	0	1	ı	na	2.9E+04	1	1	na	2.9E+04	1	1	1	1	1		1	1	1	,	na	2.9E+04
Fluoranthene	0	1	1	na	3.7E+02	1	1	na	3.7E+02	ı	1	1	1	1	ı	ı	1	1	1	па	3.7E+02
Fluorene	0	Ľ	1	na	1.4E+04	ı	ı	na	1.4E+04	ı	1	1	ı	ı	I	Ī	,	:	1	na	1.4E+04
Foaming Agents	0	1	1	na	1	1	ľ	na	ı	ı	I	ı	,	1	I	1	ı	:	ı	na	ı
Guthion	0	1	1.0E-02	na	1	1	1.0E-02	na	1	1	1	1	1	ľ	I,	r	1	ı	1.0E-02	na	ı
Heptachlor ^c	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	1	1	1	1	ı	ı	1	1	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	па	1.1E-03	I	1	1	1	1	1	1	1	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene ^c	0	ı	I	na	7.7E-03	I	ı	па	7.7E-03	ı	1	ı	ı	1	1	1	1	1	ı	na	7.7E-03
Hexachlorobutadiene	0	I	ı	na	5.0E+02	ı	1	na	5.0E+02	ı	ı	ı	1	ı	1	ı	1	ı	ı	na	5.0E+02
Hexachlorocyclohexane Alpha-BHC ^c	0	1	1	e	13F-01	1	1	80	1.3F-01	1	ı	ı	1	ı	ı	1	1			80	1.3F_01
Hexachlorocyclohexane				!				!												!	
Beta-BHC*	0	1	1	na	4.6E-01	1	ı	na	4.6E-01	E	ı	I.	í	ı	į.	ı	Ē	ı	:	na	4.6E-01
Gamma-BHC ^c (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	1	na	6.3E-01	1	1	1	1	ı	1	1	ı	9.5E-01	ı	na	6.3E-01
Hexachlorocyclopentadiene	0	1	1	na	1.7E+04	ı	1	na	1.7E+04	1	1	1	1	1	1	1	ı	ı	ı	na	1.7E+04
Hexachloroethane ^c	0	1	ı	na	8.9E+01	ı	ı	na	8.9E+01	ı	ı	ı	ı	1	1	ı	1	;		na	8.9E+01
Hydrogen Sulfide	0	1	2.0E+00	na	ı	ı	2.0E+00	na	1	ı	I	ı	ı	I	1	I	1	:	2.0E+00	na	,
Indeno (1,2,3-cd) pyrene ^c	0	Ī	ľ	na	4.9E-01	ı	I	na	4.9E-01	ı	1	ī	1	ı	1	1	ī	ı	ı	na	4.9E-01
Iron	0	1	ı	na	ı	ı	ı	na	ı	I	1	I	ï	I	E	1	ï	:	:	na	
Isophorone ^c	0	1	1	na	2.6E+04	1	ı	na	2.6E+04	1	1	1	1	1	1	1	1	ı	1	na	2.6E+04
Kepone	0	1	0.0E+00	na	1	1	0.0E+00	na	1	ı	ı	1	1	1	ı	ı	1	ı	0.0E+00	na	1
Lead	0	2.4E+01	2.7E+00	na	1	2.4E+01	2.7E+00	na	1	ı	1	ī	1	1	1	1	1	2.4E+01	2.7E+00	na	1
Malathion	0	ı	1.0E-01	na	I	1	1.0E-01	na	ı	1	ı	Ē	1	1	E	1	1	ı	1.0E-01	na	ı
Manganese	0	1	ı	na	ı	ı	I	na	ı	E	ı	ï	ı	ı	E	ı	ı	:	ı	na	ı
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	ı	1	1	1	1	1	1	1	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	1	3	na	4.0E+03	1	3	na	4.0E+03	3	1	1	1	1	3	1	1	1	1	na	4.0E+03
Methoxychlor	0	1	3.0E-02	na	1	1	3.0E-02	na	ı	ı	1	ī	1	ı	1	1	ı	1	3.0E-02	na	1
Mirex	0	1	0.0E+00	na	I	1	0.0E+00	na	ı	1	Ŀ	ī	ı	1	1	1	1	1	0.0E+00	na	ı
Monochlorobenzene	0	I	ī.	na	2.1E+04	Ę	1	na	2.1E+04	L	I	Ē	ı	ľ	1	1	ı		ı	na	2.1E+04
Nickel	0	6.2E+01	6.9E+00	na	4.6E+03	6.2E+01	6.9E+00	na	4.6E+03	1	1	1	1	1	1	1	1	6.2E+01	6.9E+00	na	4.6E+03
Nitrate (as N)	0	:		na	ı	1	1	na	ı	1	ı	1	1	1	1	ı	1	1	:	na	
Nitrobenzene	0	1	ı	na	1.9E+03	ı	ı	na	1.9E+03	ı	1	1	1	I	Ţ	ı	I	ı	,	na	1.9E+03
N-Nitrosodimethylamine ^c	0	ı	Ē	na	8.1E+01	I.	E	na	8.1E+01	Ė	ţ	1	1	ı	ı	ı	ı	;	:	na	8.1E+01
N-Nitrosodiphenylamine ^C	0	ı	ı	na	1.6E+02	1	1	na	1.6E+02	ı	1	1	1	ı	1	ı	1	ı		na	1.6E+02
N-Nitrosodi-n-propylamine ^c	0	1	1	na	1.4E+01	1	1	na	1.4E+01	ı	1	1	1	1	1	1	1	1	:	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	ı	6.5E-02	1.3E-02	na	1	ı	1	1	1	ı	1	1	1	6.5E-02	1.3E-02	na	:
PCB-1016	0	:	1.4E-02	na	ı	1	1.4E-02	na	ı	ī	ı	1	1	ı	Į	;	1	:	1.4E-02	na	:
PCB-1221	0	1	1.4E-02	na	ı	E	1.4E-02	na	ı	1	1	1	ı	ı	ı	ı	ı	:	1.4E-02	na	:
PCB-1232	0	1	1.4E-02	na	ı	1	1.4E-02	na	1	1	1	1	1	1	1	1	1	1	1.4E-02	na	1
PCB-1242	0	1	1.4E-02	na	1	1	1.4E-02	na	1	1	1	1	1	1	1	1	1	1	1.4E-02	na	1
PCB-1248	0	1	1.4E-02	na	1	ı	1.4E-02	na	1	1	1	ı	ı	1	1	1	ı	1	1.4E-02	na	,
PCB-1254	0	1	1.4E-02	na	ı	ı	1.4E-02	na	ı	ı	1	1	ı	1	1	1	1	ı	1.4E-02	na	:
PCB-1260	0	ı	1.4E-02	na	ı	£	1.4E-02	na	1	ï	1	1	I	ı	E	ı		ı	1.4E-02	na	
PCB Total ^c	0	ı		na	1.7E-03	ı	1	na	1.7E-03	ī	1	1	1	1	1	1	-	,	1	na	1.7E-03

Parameter	Background		Water Quality Criteria	lity Criteria			Wasteload Allocations	Allocations		Ani	Antidegradation Baseline	n Baseline	-	Antic	legradation	Antidegradation Allocations		-	Aost Limiting	Most Limiting Allocations	
(ng/l unless noted)	Conc.	Acute	Chronic	Chronic HH (PWS)	Ŧ	Acute	Chronic HH	(PWS)	壬	Acute (Chronic HI	HH (PWS)	Ŧ	Acute	Chronic HH (PWS)	H (PWS)	Ŧ	Acute	Chronic	HH (PWS)	Ŧ
Pentachlorophenol ^c	0	1.8E+01	1.4E+01	па	8.2E+01	1.8E+01	1.4E+01	na	8.2E+01	1	1		1	1	1	. 1	1	1.8E+01	1.4E+01	na	8.2E+01
Phenol	0	1	ı	па	4.6E+06	ı	ı	na	4.6E+06	1	1	1	1	1	ī	1	1	1	ı	na	4.6E+06
Pyrene	0	1	1	na	1.1E+04	ī	1	na	1.1E+04	1	1	1	1	1	ı	I	1	,	ı	na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	ı	I	na	1	ľ	ī	na	1	ı	1	1	1	1	1	1	ı	:	,	na	1
Gross Alpha Activity	0	1	ı	na	1.5E+01	1	1	na	1.5E+01	Í	£	ı	1	Ē	1	1	1	ı	ı	na	1.5E+01
(mrem/yr)	0	1	1	na	4.0E+00	1	ı	па	4.0E+00	ı	1	1	1	1	1	1	3	ı	1	na	4.0E+00
Strontium-90	0	,	ı	na	8.0E+00	ı	ï	na	8.0E+00	ı	1	1	ı	ī	ī	ī	1	1	1	na	8.0E+00
Tritium	0	r	ı	na	2.0E+04	ı	ı	na	2.0E+04	1	- 1	1	1	1	1	ī	1	ı	ı	na	2.0E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	ı	ı	ı	1	É	ı	ī	-	2.0E+01	5.0E+00	na	1.1E+04
Silver	0	3.9E-01	1	па	1	3.9E-01	1	na	1	1	1	ı	1	1	ı	ı	1	3.9E-01	;	na	1
Sulfate	0	1	1	па	1	ī	1	na	1	1	1	3	1	1	1	1	1	:	ı	na	1
1,1,2,2-Tetrachloroethane ^c	0	1	ı	na	1.1E+02	I	1	па	1.1E+02	ı	ı		1	ī	1	ı	1	:	ı	na	1.1E+02
Tetrachloroethylene ^c	0	I	ı	na	8.9E+01	í	ı	na	8.9E+01	ı	ī	ı	1	1	I	1	1	:	ı	na	8.9E+01
Thallium	0	1	ı	na	6.3E+00	ī	ï	na	6.3E+00	ı	ı	ı		E	ı	É	ı	ı	£	na	6.3E+00
Toluene	0	1	ı	na	2.0E+05	ı	1	na	2.0E+05	1	1	ı	1	1	ı	ı	1	1	ı	na	2.0E+05
Total dissolved solids	0	1	1	na	1	1	1	na	1	1	1	3	1	1	ı	1	ı	:	ı	па	1
Toxaphene ^c	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	ı	ī	ı	1	1	1	1	1	7.3E-01	2.0E-04	na	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	na	ı	4.6E-01	6.3E-02	na	ı	1	ī	ı	1	1	ı	ı	ı	4.6E-01	6.3E-02	na	:
1,2,4-Trichlorobenzene	0	1	1	na	9.4E+02	1	ı	na	9.4E+02	1	ī	I.	1	1	1	1	1	:	ı	na	9.4E+02
1,1,2-Trichloroethane ^c	0	1	1	na	4.2E+02	1	ı	na	4.2E+02	1	1	1	1	1	1	1	1	1	1	na	4.2E+02
Trichloroethylene ^c	0	ı	1	na	8.1E+02	1		na	8.1E+02	1	1	1	1	1	1	1	1	ı	ı	na	8.1E+02
2,4,6-Trichlorophenol ^C	0	ı	1	na	6.5E+01	ī	ı	na	6.5E+01	1	1	1	1	ı	1	1	1	1	1	na	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	1	1	па	ı	1	I	na	1	1	ī	1	1	ī	1	ı	1	1	ı	na	1
Vinyl Chloride ^c	0	1	ī	na	6.1E+01	1	ı	па	6.1E+01	1	í	1	1	I	ı	ı	1	ı	ī	na	6.1E+01
Zinc	0	4.0E+01	4.0E+01	па	6.9E+04	4.0E+01	4.0E+01	na	6.9E+04	ı	Ē	ſ	1	1	1	1	-	4.0E+01	4.0E+01	na	6.9E+04

- 1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- 2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- 3. Metals measured as Dissolved, unless specified otherwise
 - 4. "C" indicates a carcinogenic parameter
- 5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
- 6. Antideg. Baseline = (0.25(WQC background conc.) + background conc.) for acute and chronic
 - = (0.1(WQC background conc.) + background conc.) for human health
- 7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens,
- Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)	Target Value (SSTV) Note: do not use QL's lower than the
Antimony	4.3E+03	minimum QL's provided in agency
Arsenic	9.0E+01	guidance
Barium	na	
Cadmium	2.5E-01	
Chromium III	1.6E+01	
Chromium VI	6.4E+00	
Copper	1.6E+00	
lron	na	
Lead	1.6E+00	
Manganese	па	
Mercury	5.1E-02	
Nickel	4.1E+00	
Selenium	3.0E+00	
Silver	1.5E-01	
Zinc	1.6E+01	

2/14/2008 - 8:29 AM

6/15/2007 9:49:15 AM

Facility = Christchurch School STP - UT Rappahannock Chemical = Ammonia (as N)
Chronic averaging period = 30
WLAa = 4.9
WLAc = 0.67
Q.L. = .2
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8544
< Q.L. = 0</pre>

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity Maximum Daily Limit = 1.35183896258893 Average Weekly limit = 1.35183896258893 Average Monthly LImit = 1.35183896258893

The data are:

9

11/16/2007 12:57:39 PM

Facility = Christchurch School STP - UT Rappahannock Chemical = Arsenic Chronic averaging period = 4 WLAa = 340 WLAc = 150 Q.L. = 20 # samples/mo. = 1 # samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

20

Facility = Christchurch School - UT Rappahannock Chemical = Copper Chronic averaging period = 4 WLAa = 4.1 WLAc = 3 Q.L. = 1.6 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 13 Variance = 60.84 C.V. = 0.6 97th percentile daily values = 31.6344 97th percentile 4 day average = 21.6292 97th percentile 30 day average= 15.6786 # < Q.L. = 0Model used = BPJ Assumptions, type 2 data A limit is needed based on Acute Toxicity Maximum Daily Limit = 4.1 Average Weekly limit = 4.1 Average Monthly LImit = 4.1

2/14/2008 8:59:56 AM

13

The data are:

```
2/14/2008 8:57:23 AM

Facility = Christchurch School - UT Rappahannock
Chemical = Lead
Chronic averaging period = 4
WLAa = 24
WLAc = 2.7
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

# observations = 1
Expected Value =
Variance = C.V. =
97th percentile daily values =
97th percentile 4 day average = 21.6292
97th percentile 30 day average = 15.6786
# < Q.L. = 1
Model used =</pre>
```

No Limit is required for this material

The data are:

0.26

2/14/2008 8:58:50 AM

Facility = Christchurch School - UT Rappahannock Chemical = Zinc Chronic averaging period = 4 WLAa = 40WLAc = 40 Q.L. = 16 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics:

observations = 1 Expected Value = 45 Variance = 729 C.V. = 0.697th percentile daily values = 109.50397th percentile 4 day average = 74.8705 97th percentile 30 day average= 54.2723 = 0 # < Q.L. Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity Maximum Daily Limit = 40 Average Weekly limit = 40 Average Monthly LImit = 40

The data are:

45

```
11/14/2007 11:39:51 AM
Facility = Christchruch School STP - UT Rappahannock
Chemical = Nickel
Chronic averaging period = 4
WLAa = 62
WLAc = 6.9
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1
Summary of Statistics:
```

observations = 1
Expected Value = 2.7
Variance = 2.6244
C.V. = 0.6
97th percentile daily values = 6.57022
97th percentile 4 day average = 4.49223
97th percentile 30 day average = 3.25634
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

2.7

11/16/2007 12:55:04 PM Facility = Christchurch School STP - UT Rappahannock Chemical = Chromium III Chronic averaging period = 4 WLAa = 200WLAc = 26Q.L. = 4# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 4 Variance = 5.76C.V. = 0.697th percentile daily values = 9.7336797th percentile 4 day average = 6.65516 97th percentile 30 day average= 4.82421 # < Q.L.

= BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

Model used

4

Note:

The laboratory reported Total Chromium rather than Trivalent (Cr III) or Hexavalent (Cr VI) Chromium. A Total Chromium concentration incorporates both of these forms of Chromium. As a result, it is safe to assume that the Total Chromium test result concentration will always be higher than the individual forms of Chromium within the same sample. Using a conservative approach in this case, the Total Chromium test result concentration (4 μ g/L) was used in limitation development calculations as the concentration at which Chromium III and Chromium VI individually existed in the effluent. No limitation was determined to be required for either form of Chromium using this number.

11/16/2007 12:55:27 PM Facility = Christchurch School STP - UT Rappahannock Chemical = Chromium VI Chronic averaging period = 4 = 200 WLAa WLAc = 26Q.L. = 4# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 4 Variance = 5.76C.V. = 0.697th percentile daily values = 9.73367 97th percentile 4 day average = 6.65516 97th percentile 30 day average= 4.82421 # < Q.L. = 0

= BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

Model used

4

Note:

The laboratory reported Total Chromium rather than Trivalent (Cr III) or Hexavalent (Cr VI) Chromium. A Total Chromium concentration incorporates both of these forms of Chromium. As a result, it is safe to assume that the Total Chromium test result concentration will always be higher than the individual forms of Chromium within the same sample. Using a conservative approach in this case, the Total Chromium test result concentration (4 $\mu g/L$) was used in limitation development calculations as the concentration at which Chromium III and Chromium VI individually existed in the effluent. No limitation was determined to be required for either form of Chromium using this number.

11/14/2007 11:29:52 AM

Facility = Christchurch School STP - UT Rappahannock Chemical = Cadmium
Chronic averaging period = 4
WLAa = 0.94
WLAc = 0.42
Q.L. = 0.005
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = .005
Variance = .000009
C.V. = 0.6
97th percentile daily values = .012167
97th percentile 4 day average = .008318
97th percentile 30 day average = .006030
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

0.005

NOTE:

The permittee's laboratory was not able to produce a QL low enough to meet that requested by DEQ staff (0.25 $\mu g/L$) for this constituent. DEQ staff requested that the laboratory report the MDL (method detection limit) for the test method used, and whether or not the constituent was detected at that level. If the constituent would have been detected at the MDL, DEQ staff would use the QL reported by the laboratory as a quantified data point in the limitation evaluation for this facility. In this case, the laboratory reported that the constituent was not detected at the reported MDL, so it was assumed (with at least 99% accuracy) that the constituent did not exist in concentrations exceeding the MDL of 0.005 $\mu g/L$.

```
7/16/2007 10:56:30 AM
Facility = Christchurch School STP - UT Rappahannock
Chemical = Chlorides
Chronic averaging period = 4
WLAa = 860
WLAc = 230
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

# observations = 1
Expected Value = 104
Variance = 3893.76
C.V. = 0.6
97th percentile daily values = 253.075
97th percentile 4 day average = 173.034
97th percentile 30 day average = 125.429
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>
```

No Limit is required for this material

The data are:

104

11/14/2007 11:44:11 AM Facility = Christchruch School STP - UT Rappahannock Chemical = Chloroform Chronic averaging period = 4 WLAa WLAc Q.L. = 10# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 81 Variance = 2361.96C.V. = 0.697th percentile daily values = 197.106 97th percentile 4 day average = 134.767 97th percentile 30 day average= 97.6903 # < Q.L. = 0

= BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

Model used

81

NOTE:

Chloroform had been noted in one of the effluent screenings as existing in levels higher than the QL for the specific test used by the permittee's contracted laboratory. According to the Water Quality Standards, no acute or chronic waste load allocations exist for this compound, though a human health standard exists. The test result of 81 μ g/l is lower than the public water supply standard of 350 μ g/l, and much lower than the "all other surface waters" category of 29000 μ g/l. A public water supply condition does not exist for the Christchurch School STP, so the test result should be compared to the second category stated above. As a result, limit development for this compound shall not be considered for the purposes of this permit reissuance.

11/16/2007 2:08:39 PM

Facility = Christchurch School STP - UT Rappahannock Chemical = Cyanide
Chronic averaging period = 4
WLAa = 22
WLAc = 5.2
Q.L. = 20
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

A limit is needed based on Chronic Toxicity Maximum Daily Limit = 7.6053888770768 Average Weekly limit = 7.6053888770768 Average Monthly LImit = 7.6053888770768

The data are:

20

NOTE:

* The permittee's laboratory did not test Cyanide to the QL of 10 μ g/L that is required by DEQ. Instead, the lab calculated a QL of 20 μ g/L. Typically if a pollutant is reported below a QL that is higher than that QL required by DEQ, permitting staff are to take a conservative approach to evaluate whether or not a limit will be required. To do this, the inappropriate QL reported by the permittee or laboratory is treated as the concentration at which the pollutant was detected in the facility's effluent. As a result, the QL used by the laboratory was entered as a data point into STATS v2.0.4 to calculate whether or not a limit will be required.

June 30, 2008 - During the 2008 permit reissuance Public Comment period (May 30, 2008 - June 30, 2008) the permittee requested that the monitoring requirement for Cyanide (1/6 Months, monitoring and reporting only) be removed from the original 2008 draft permit. The permittee provided the results of a second sampling for Cyanide. The test results showed that Cyanide exists at a concentration below the QL that DEQ considers the pollutant to be absent (0.010 mg/L). Therefore, the monitoring requirement for Cyanide has been removed from the permit.

7/25/2007 8:21:56 AM Facility = Christchurch School STP - UT Rappahannock Chemical = H. Sulfide Chronic averaging period = 4 WLAa = WLAc = 2 Q.L. = 500 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 1100 Variance = 435600 C.V. = 0.6 97th percentile daily values = 2676.75 97th percentile 4 day average = 1830.16

= BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 2.92514956810646
Average Weekly limit = 2.92514956810646
Average Monthly LImit = 2.92514956810646

97th percentile 30 day average= 1326.65

The data are:

< Q.L. Model used

1100

Note: October 18, 2007

A second data point was requested of the permittee after this STATS evaluation was performed for Hydrogen Sulfide. The test result revealed a concentration below a QL of 50 $\mu g/L$. In lieu of a permit limitation, Hydrogen Sulfide shall be monitored by the permittee to determine if a limit is needed in future reissuances.

6/26/2007 10:18:36 AM

```
Facility = Christchurch School STP - UT Rappahannock Chemical = Total Residual Chlorine Chronic averaging period = 4
WLAa = 0.019
WLAc = 0.011
Q.L. = 0.1
# samples/mo. = 30
# samples/wk. = 8
```

Summary of Statistics:

```
# observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>
```

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.60883226245855E-02
Average Weekly limit = 9.59676626920106E-03
Average Monthly LImit = 7.9737131838758E-03

The data are:

11/14/2007 11:55:41 AM Facility = Christchurch School STP Chemical = Dichlorobromomethane - UT Rappahannock Chronic averaging period = 4 WLAa WLAc = Q.L. = 5# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 6 Variance = 12.96C.V. = 0.697th percentile daily values = 14.6005 97th percentile 4 day average = 9.98274 97th percentile 30 day average= 7.23631 # < Q.L. Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

6

NOTE:

Dichlorobromomethane had been noted in one of the effluent screenings as existing in levels higher than the QL for the specific test used by the permittee's contracted laboratory. According to the Water Quality Standards, no acute or chronic waste load allocations exist for this compound, though a human health standard exists. The test result of 6 $\mu g/l$ is higher than the public water supply standard of 5.6 $\mu g/l$, and much lower than the "all other surface waters" category of 460 $\mu g/l$. A public water supply condition does not exist for the Christchurch School STP, so the test result should be compared to the second category stated above. As a result, limit development for this compound shall not be considered for the purposes of this permit reissuance.

10/12/2007 12:03:21 PM

Facility = Christchurch School STP - UT Rappahannock Chemical = Mercury Chronic averaging period = 4WLAa = 1.4 WLAc = 0.77 Q.L. = .051 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics:

observations = 1 Expected Value = .2 Variance = .0144 C.V. = 0.6 C.V. 97th percentile daily values = .486683 97th percentile 4 day average = .33275897th percentile 30 day average= .241210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

0.2

11/14/2007 11:36:45 AM Facility = Christchruch School STP - UT Rappahannock Chemical = Silver Chronic averaging period = 4 WLAa = 0.39WLAc = Q.L. = 0.001# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = .001 Variance = .000000 C.V. = 0.697th percentile daily values = .002433 97th percentile 4 day average = .001663 97th percentile 30 day average= .001206 # < Q.L. = 0 = BPJ Assumptions, type 2 data Model used No Limit is required for this material The data are:

NOTE .

0.001

The permittee's laboratory was not able to produce a QL low enough to meet that requested by DEQ staff (0.15 $\mu g/L$) for this constituent. DEQ staff requested that the laboratory report the MDL (method detection limit) for the test method used, and whether or not the constituent was detected at that level. If the constituent would have been detected at the MDL, DEQ staff would use the QL reported by the laboratory as a quantified data point in the limitation evaluation for this facility. In this case, the laboratory reported that the constituent was not detected at the reported MDL, so it was assumed (with at least 99% accuracy) that the constituent did not exist in concentrations exceeding the MDL of 0.001 $\mu g/L$.

MSTRANTI DATA SOURCE REPORT:

As applicable to Permit Limitations found in Part I.A.3 of the 2008 permit reissuance.

Stream In	formation				
Mean Hardness	Best Professional Judgment				
90% Temperature (annual)					
90% Temperature (wet season)	Data collected from Station 3-				
90% Maximum pH	RPP017.72 located mid-channel southwest of Towles Point				
10% Maximum pH					
Tier Designation	Flow Frequency Analysis- January 29, 2008				
Stream	Flows				
All Data	Flow Frequency Analysis- January 29, 2008				
Mixing Inf	formation				
All Data	Tidal defaults				
Effluent Information					
Mean Hardness	Data provided by permittee in application.				
90% Temperature (annual)	Data provided by permittee in application.				
90% Maximum pH	DMR data				
10% Maximum pH	DMR data				
Discharge Flow	STP Design Flow				
Data Location:					

Data Location:

Effluent Information – Attachment E Flow Frequency Analyses- Attachment D

MSTRANTI (k) Christchurch - Rappahannock - Salt & Transition Waters WLAs

WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS SALTWATER AND TRANSITION ZONES

Christchurch School Rappahannock River Receiving Stream: Facility Name:

Permit No.: VA0024066

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Mixing Information		Effluent Information		
Mean Hardness (as CaCO3) =	_	mg/l	Design Flow (MGD)	0.04	aCO3) =	28	_mg/L
90th % Temperature (Annual) =	26.9	(° C)	Acute WLA multiplier	2	90 % Temperature (Annual) =	27.7	(°C)
90th % Temperature (Winter) =	5.3	(° C)	Chronic WLA multiplier	51	90 % Temperature (Winter) =	19.1	(°C)
90th % Maximum pH =	8.2		Human health WLA multiplier	51	90 % Maximum pH =	8.285	SU
10th % Maximum pH =	7.4				10 % Maximum pH =	7.7	SU
Tier Designation (1 or 2) =	~				Discharge Flow =	0.04	MGD
Early Life Stages Present Y/N =							
Tidal Zone =	1	(1 = saltwater, 2 = transition zone)	zone)				
Mean Salinity =	15.6 (g/kg)	g/kg)					

Parameter	Background		Water Quality Criteria	Sriteria	Wast	Wasteload Allocations	tions	Antide	Antidegradation Baseline	eline	Antide	Antidegradation Allocations	ocations	MostL	Most Limiting Allocations	cations
(ug/l unless noted)	Conc.	Acute	Chronic	H	Acute	Chronic	H	Acute	Chronic	H	Acute	Chronic	H	Acute	Chronic	H
Acenapthene	0	1	1	2.7E+03	1	ı	1.4E+05	1	ī	1	1	1	1	ı	1	1.4E+05
Acrolein		ı	I	7.8E+02	1	1	4.0E+04	1	1	1	1	ı	1	1	1	4.0E+04
Acrylonitrile ^C		ı	ı	6.6E+00	ı	ı	3.4E+02	ı	ı	1	-	I	ı	1	:	3.4E+02
Aldrin ^c	0	1.3E+00	1	1.4E-03	2.6E+00	1	7.1E-02	1	ı	ı	1	1	ı	2.6E+00	1	7.1E-02
Ammonia-N (mg/l) - Annual	0	1.9E+00	1.9E+00 3.3E-01	ı	3.8E+00	1.7E+01	ı	I	ı	ı	ı	ı	1	3.8E+00	1.7E+01	ı
Ammonia-N (mg/l) - Winter	0	5.5E+00	5.5E+00 1.5E+00	ı	1.1E+01	7.8E+01	ı	ı	ı	I	ı	1	1	1.1E+01	7.8E+01	ı
Anthracene	0	1	1	1.1E+05	1	ı	5.6E+06	1	ı	1	ı	ı	1	1	1	5.6E+06
Antimony	0	ı	ľ	4.3E+03	ı	ı	2.2E+05	I	ı	I	ı	1	1	ı	1	2.2E+05
Arsenic	0	6.9E+01	6.9E+01 3.6E+01	1	1.4E+02	1.8E+03	1	ı	ı	ı	١	ı	1	1.4E+02	1.8E+03	
Benzene ^c	0	ı	I	7.1E+02	ı	ı	3.6E+04	1	1	1	ı	1	1	1	1	3.6E+04
Benzidine ^c		I	ı	5.4E-03	1	1	2.8E-01	ı	ı	1	ı	ı	1	1	ı	2.8E-01
Benzo (a) anthracene ^c	0	ı	1	4.9E-01	I	1	2.5E+01	ı	ı	ı	1	ı	1	1	;	2.5E+01
Benzo (b) fluoranthene ^c	0	ı	ı	4.9E-01	ı	ı	2.5E+01	I	ı	ı	ı	ı	ı	1	١	2.5E+01
Benzo (k) fluoranthene ^c	0	ı	ı	4.9E-01	ı	ı	2.5E+01	ı	ı	ı	ı	ı	1	1	ı	2.5E+01
Benzo (a) pyrene ^c	0	1	1	4.9E-01	1	1	2.5E+01	ı	1	1	1	1	1	1	1	2.5E+01
Bis2-Chloroethyl Ether		ı	1	1.4E+01	1	ı	7.1E+02	ı	ı	F	ı	1	I	ı	ı	7.1E+02
Bis2-Chloroisopropyl Ether		ı	1	1.7E+05	1	1	8.7E+06	ı	ı	ı	1	ı	ı	ŀ	;	8.7E+06
Bromoform ^C	0	1	1	3.6E+03	ı	1	1.8E+05	ı	1	1	1	ı	1	1	1	1.8E+05
Butylbenzylphthalate	0	1	1	5.2E+03	1	1	2.7E+05	ı	ı	1	ı	ı	1	ı	ı	2.7E+05
Cadmium	0	4.0E+01	4.0E+01 8.8E+00	ı	8.0E+01	4.5E+02	ı	1	1	ı	1	1	1	8.0E+01	4.5E+02	ı
Carbon Tetrachloride ^C	0	I	ı	4.4E+01	ı	ı	2.2E+03	1	E	ı	ť	ı	I	1	1	2.2E+03
Chlordane ^c	0	9.0E-02	9.0E-02 4.0E-03	2.2E-02	1.8E-01	2.0E-01	1.1E+00	1	1	ı	ı	1	1	1.8E-01	2.0E-01	1.1E+00
TRC	0			1			1	1	1	ı	1	ı	ı	١	ı	ı
Chlorine Prod. Oxidant	0	1.3E+01 7.5E+00	7.5E+00	ı	2.6E+01	3.8E+02	1	1	1	ı	ı	,	1	2.6E+01	3.8E+02	

,	,		Water Quality Official	Olitoria	2544	Wasteldad Allocations	diction	STITION	Alludegiadation baseline	ellile	Alinder	Antidegradation Allocations	Callons	MINOSEE	MOST LIMITING AIRCCATIONS	cations
(ug/i uniess noted)	Conc.	Acute	Chronic	王	Acute	Chronic	王	Acute	Chronic	王	Acute	Chronic	Ŧ	Acute	Chronic	壬
Chlorobenzene		1	1	2.1E+04	1	1	1.1E+06	ı	ı	ı	ı	1	1	ı	ı	1.1E+06
Chlorodibromomethane ^C	0	1	1	3.4E+02	1	ı	1.7E+04	1	1	ı	ı	1	1	1	1	1.7E+04
Chloroform ^c	0	ı	ı	2.9E+04	Ĺ	1	1.5E+06	ı	1	1	I	ī	Ī	1	1	1.5E+06
2-Chloronaphthalene	0	1	1	4.3E+03	1	1	2.2E+05	1	ı	1	1	1	1	1	:	2.2E+05
2-Chlorophenol	0	1	ı	4.0E+02	ı	ı	2.0E+04	ı	ı	ı	ı	ı	ı	ı	:	2.0E+04
Chlorpyrifos	0	1.1E-02	5.6E-03	ı	2.2E-02	2.9E-01	ı	ı	ı	ı	I	I	ı	2.2E-02	2.9E-01	١
Chromium III	0			1			1	1	1	1	1	1	1	1	1	1
Chromium VI	0	1.1E+03	1.1E+03 5.0E+01	1	2.2E+03	2.6E+03	ı	ı	ı	ı	ı	1	ı	2.2E+03	2.6E+03	١
Chrysene ^c	0	1	1	4.9E-01	1	1	2.5E+01	1	ı	1	1	ı	1	1	ı	2.5E+01
Copper	0	9.3E+00	9.3E+00 6.0E+00	ı	1.9E+01	3.1E+02	ı	I	ı	ı	ı	I	E	1.9E+01	3.1E+02	1
Cyanide	0	1.0E+00	1.0E+00 1.0E+00	2.2E+05	2.0E+00	5.1E+01	1.1E+07	ı	I	1	ı	ı	ı	2.0E+00	5.1E+01	1.1E+07
DDD c	0	1	1	8.4E-03	1	1	4.3E-01	1	1	ı	ı	1	1	1	ı	4.3E-01
DDE c	0	ı	1	5.9E-03	1	ı	3.0E-01	1	1	ı	ı	1	ı	1	ı	3.0E-01
DDT ^c	0	1.3E-01	1.0E-03	5.9E-03	2.6E-01	5.1E-02	3.0E-01	ı	1	1	ı	1	1	2.6E-01	5.1E-02	3.0E-01
Demeton	0	1	1.0E-01	1	Ē	5.1E+00	ı	E	1	-	ı	1	ı	1	5.1E+00	1
Dibenz(a,h)anthracene ^c	0	1	1	4.9E-01	ī	ı	2.5E+01	ı	1	ı	ı	1	ı	1	ı	2.5E+01
Dibutyl phthalate	0	1	ı	1.2E+04	ı	1	6.1E+05	1	ı	1	1	1	1	1	1	6.1E+05
Chloride) ^C	0	ı	1	1.6E+04	I	E	8.2E+05	E	ı	ı	ı	ı	ı	ı	1	8.2E+05
1,2-Dichlorobenzene	0	ı	ı	1.7E+04	1	1	8.7E+05	1	1	ı	ı	ī	ı	ı	ı	8.7E+05
1,3-Dichlorobenzene	0	1	1	2.6E+03	1	1	1.3E+05	1	1	ı	1	ı	ı	ı	1	1.3E+05
1,4-Dichlorobenzene	0	ı	ı	2.6E+03	ţ	ſ	1.3E+05	ſ	1	ı	I	I	1	ı	:	1.3E+05
3,3-Dichlorobenzidine ^c	0	1	ı	7.7E-01	1	ı	3.9E+01	1	1	ı	ı	ı	ı			
Dichlorobromomethane ^c	0	1	1	4.6E+02	ı	1	2.3E+04	ı	ı	ı	1	ı	ı	ı	1	2.3E+04
1,2-Dichloroethane ^c	0	ı	ı	9.9E+02	ı	I	5.0E+04	ī	I	1	1	ī	ı	ı	ı	5.0E+04
1,1-Dichloroethylene	0	١	ı	1.7E+04	1	1	8.7E+05	1	1	1	ı	1	1	1	ı	8.7E+05
1,2-trans-dichloroethylene	0	1	ı	1.4E+05	ı	ı	7.1E+06	ı	ı	ı	ı	ı	ı	ı	ı	7.1E+06
2,4-Dichlorophenol	0	1	ı	7.9E+02	ı	1	4.0E+04	I	1	ı	ı	1	ı	ı	ı	4.0E+04
1,2-Dichloropropane ^c	0	ı	1	3.9E+02	1	1	2.0E+04	ı	1	ı	1	1	ı	ı	ı	2.0E+04
1,3-Dichloropropene	0	-	I	1.7E+03	ı	ı	8.7E+04	ı	ı	ı	ı	1	ı	ı	ľ	8.7E+04
Dieldrin ^c	0	7.1E-01	1.9E-03	1.4E-03	1.4E+00	9.7E-02	7.1E-02	1	ı	ı	1	ı	ı	1.4E+00	9.7E-02	7.1E-02
Diethyl Phthalate	0	ı	Ĺ	1.2E+05	I	1	6.1E+06	ı	ı	1	ı	1	ı	ı	1	6.1E+06
Di-2-Ethylhexyl Phthalate ^c	0	I	I	5.9E+01	ı	ı	3.0E+03	ı	I	ı	ı	1	ı	ı	ı	3.0E+03
2,4-Dimethylphenol	0	1	1	2.3E+03	1	1	1.2E+05	1	ı	1	1	ī	ı	1	1	1.2E+05
Dimethyl Phthalate	0	ı	1	2.9E+06	1	Ē	1.5E+08	ľ	ı	1	1	1	1	1	1	1.5E+08
Di-n-Butyl Phthalate	0	ı	ī	1.2E+04	1	1	6.1E+05	ı	ı	ı	1	ı	1	ı	ı	6.1E+05
2,4 Dinitrophenol	0	ı	1	1.4E+04	1	1	7.1E+05	1	1	1	1	1	ı	1	1	7.1E+05
2-Methyl-4,6-Dinitrophenol	0	ı	I	7.65E+02	ı	ı	3.9E+04	ı	ı	ı	ľ	1	1	1	1	3.9E+04
2,4-Dinitrotoluene	0	1	ı	9.1E+01	1	1	4.6E+03	1	1	1	1	1	ı	ı	1	4.6E+03
Dioxin (z,s,r,o- tetrachlorodibenzo-p-dioxin)																
(bdd)	0	1	ı	1.2E-06	ı	1	6.1E-05	ı	I	1	ı	ı	1	ı	1	6.1E-05
1,2-Diphenylhydrazine ^c	0	ı	1	5.4E+00	1	ı	2.8E+02	ı	ı	ı	L	1	ſ	ı	ı	2.8E+02
Alpha-Endosulfan	0	3.4E-02	8.7E-03	2.4E+02	6.8E-02	4.4E-01	1.2E+04	1	1	1	1	1	1	6.8E-02	4.4E-01	1.2E+04

Parameter	Background		Water Quality Criteria	riteria	Waste	Wasteload Allocations	tions	Antideg	Antidegradation Baseline	eline	Antideg	Antidegradation Allocations	cations	Most Li	Most Limiting Allocations	cations
(ug/l unless noted)	Conc.	Acute	Chronic	Ŧ	Acute	Chronic	王	Acute	Chronic	H	Acute	Chronic	HH	Acute	Chronic	Ħ
Beta-Endosulfan	0	3.4E-02	8.7E-03	2.4E+02	6.8E-02	4.4E-01	1.2E+04	1	ı	ı	1	1	ı	6.8E-02	4.4E-01	1.2E+04
Endosulfan Sulfate	0	ı	1	2.4E+02	ı	ı	1.2E+04	1	1	1	1	1	1	1	1	1.2E+04
Endrin	0	3.7E-02	2.3E-03	8.1E-01	7.4E-02	1.2E-01	4.1E+01	ı	ı	ı	ı	1	1	7.4E-02	1.2E-01	4.1E+01
Endrin Aldehyde	0	1	1	8.1E-01	ı	1	4.1E+01	1	1	ı	ı	1	1	ı	1	4.1E+01
Ethylbenzene	0	Ė	Ī	2.9E+04	ı	I	1.5E+06	1	1	ı	ı	ı	ı	1	1	1.5E+06
Fluoranthene	0	ı	ı	3.7E+02	ı	ı	1.9E+04	1	ı	ı	1	1	ı	ı	1	1.9E+04
Fluorene	0	1	ı	1.4E+04	1	1	7.1E+05	1	I	1	1	1	ı	1	1	7.1E+05
Guthion	0	ı	1.0E-02	ı	į	5.1E-01	ı	ı	ı	ı	1	ı	ı	ı	5.1E-01	ı
Heptachlor ^c	0	5.3E-02	3.6E-03	2.1E-03	1.1E-01	1.8E-01	1.1E-01	ı	1	ı	1	1	1	1.1E-01	1.8E-01	1.1E-01
Heptachlor Epoxide ^C	0	5.3E-02	3.6E-03	1.1E-03	1.1E-01	1.8E-01	5.6E-02	1	ï	ı	E	1	ı	1.1E-01	1.8E-01	5.6E-02
Hexachlorobenzene	0	1	ı	7.7E-03	1	1	3.9E-01	1	1	1	1	ı	ı	ı	ı	3.9E-01
Hexachlorobutadiene ^C	0	ı	1	5.0E+02	1	1	2.6E+04	1	I	1	1	1	ı	ı	1	2.6E+04
Hexachlorocyclohexane Alpha- BHC ^C	0	ı	I	1.3E-01	ı	1	6.6E+00	ľ	1	1	E	Ĺ	ı	1	ı	6.6E+00
Hexachlorocyclohexane Beta- BHC ^c	0	1	1	4.6E-01	ı	ı	2.3E+01	ı	1	ı	ı	ı	ı	1	1	2.3E+01
Hexachlorocyclohexane Gamma-BHC ^c (Lindane)	0	1.6E-01	1	6.3E-01	3.2E-01	ı	3.2E+01	ı	1	ı	1	ı	ı	3.2E-01	1	3.2E+01
Hexachlorocyclopentadiene	0	ı	ı	1.7E+04	ı	1	8.7E+05	ı	ı	1	1	ı	1	ı	1	8.7E+05
Hexachloroethane ^C	0	1	1	8.9E+01	ī	1	4.5E+03	1	Ī	ı	I	ı	ı	ı	ı	4.5E+03
Hydrogen Sulfide	0	1	2.0E+00		1	1.0E+02	1	1	1	1	1	I	1	1	1.0E+02	ı
Indeno (1,2,3-cd) pyrene C	0	1	ı	4.9E-01	I	ı	2.5E+01	ī	ı	ı	E	1	ı	1	1	2.5E+01
sophorone ^C	0	1	1	2.6E+04	1	ı	1.3E+06	ı	1	ı	ı	I	ı	ı	ı	1.3E+06
Kepone	0	ı	0.0E+00	1	1	0.0E+00	1	1	ı	ı	ı	I	1	1	0.0E+00	,
Lead	0	2.4E+02	9.3E+00	ı	4.8E+02	4.7E+02	ı	1	ı	ı	Ī	1	ı	4.8E+02	4.7E+02	ı
Malathion	0	1	1.0E-01	1	1	5.1E+00	1	1	ı	1	1	ı	ı	ı	5.1E+00	1
Mercury	0	1.8E+00	9.4E-01	5.1E-02	3.6E+00	4.8E+01	2.6E+00	1	ı	ı	I	ı	ı	3.6E+00	4.8E+01	2.6E+00
Methyl Bromide	0	1	1	4.0E+03	ı	ł	2.0E+05	ı	I	ı	ı	ı	ı	ı	ı	2.0E+05
Methoxychlor	0	1	3.0E-02	1	1	1.5E+00	1	1	1	1	1	1	ı	ı	1.5E+00	1
Mirex	0	ı	0.0E+00	ı	1	0.0E+00	1	ı	1	ı	ı	ı	1	1	0.0E+00	1
Monochlorobenzene	0	1	1	2.1E+04	1	I	1.1E+06	1	1	ı	ı	I	1	ı	ı	1.1E+06
Nickel	0	7.4E+01	8.2E+00	4.6E+03	1.5E+02	4.2E+02	2.3E+05	1	1	1	ı	1	1	1.5E+02	4.2E+02	2.3E+05
Nitrobenzene	0	ı	1	1.9E+03	1	I	9.7E+04	I	1	ı	1	ı	ı	ı	1	9.7E+04
N-Nitrosodimethylamine ^c	0	1	1	8.1E+01	ı	ı	4.1E+03	1	1	ı	1	ı	1	1	1	4.1E+03
N-Nitrosodiphenylamine ^c	0	ı	Ī	1.6E+02	ı	1	8.2E+03	1	1	1	ı	1	1	1	1	8.2E+03
N-Nitrosodi-n-propylamine ^c	0	1	ı	1.4E+01	ı	I	7.1E+02	1	ı	ı	I	ı	ī	ı	ı	7.1E+02
Parathion	0			ı			ı	1	,1	1	1	1	1	1	1	ı
PCB-1016	0	ı	3.0E-02	ı	ı	1.5E+00	E	ı	ı	1	1	ı	1	1	1.5E+00	ı
PCB-1221	0	ı	3.0E-02	ı	ı	1.5E+00	1	ı	1	1	ı	1	ı	ī	1.5E+00	ı
PCB-1232	0	ı	3.0E-02	ı	ı	1.5E+00	ı	ſ	ı	1	ı	ı	ı	1	1.5E+00	ı
PCB-1242	0	ı	3.0E-02	ı	ı	1.5E+00	1	1	1	ı	ı	ı	ı	I	1.5E+00	ı
PCB-1248	0	ı	3.0E-02	1	ı	1.5E+00	1	1	1	1	1	1	ı	1	1.5E+00	ı
PCB-1254	0	1	3.0E-02	1	1	1.5E+00	1	1	1	1	I	1	ı		1.5E+00	1

Parameter	Background		Water Quality Criteria	Criteria	Wast	Wasteload Allocations	tions	Antide	Antidegradation Baseline	eline	Antideg	Antidegradation Allocations	ocations	Most Li	Most Limiting Allocations	cations
(ng/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	王	Acute	Chronic	HH	Acute	Chronic	H	Acute	Chronic	Ŧ
PCB-1260	0	1	3.0E-02	-	-	1.5E+00	1	1	1	1	1	-	1	:	1.5E+00	,
PCB Total ^c	0	ı	ī	1.7E-03	1	I	8.7E-02	1	ı	1	ı	ı	1	1	1	8.7E-02
Pentachlorophenol ^c	0	1.3E+01	1.3E+01 7.9E+00	8.2E+01	2.6E+01	4.0E+02	4.2E+03	ı	ı	ı	ı	ı	ı	2.6E+01	4.0E+02	4.2E+03
Phenol	0	1	1	4.6E+06	1	ı	2.3E+08	ı	1	1	ı	1	ı	1	1	2.3E+08
Phosphorus (Elemental)	0	ı	0.1	ı	ı	5.1E+00	ı	ı	ı	1	ı	ı	ı	1	5.1E+00	
Pyrene	0	ı	1	1.1E+04	ı	1	5.6E+05	ı	ı	ı	1	ı	ı	1	1	5.6E+05
Radionuclides (pCi/l except Beta/Photon)	0	ı	ı	1	1	1	ı	ī	1	1	ı	1	ı	1	ı	ı
Gross Alpha Activity	0	I	ı	1.5E+01	ı	I	7.7E+02	1	1	1	I	I	1	ı	1	7.7E+02
(mrem/yr)	0	ı	I	4.0E+00	Ī	ı	2.0E+02	ŗ	I	ı	E	ı	ı	1	ı	2.0E+02
Strontium-90	0	1	1	8.0E+00	1	ı	4.1E+02	ı	ı	ı	I	I	ı	ı	1	4.1E+02
Tritium	0	ı	ı	2.0E+04	ı	ı	1.0E+06	ı	ı	ı	ı	1	1	ı	ı	1.0E+06
Selenium	0	3.0E+02	3.0E+02 7.1E+01	1.1E+04	6.0E+02	3.6E+03	5.6E+05	ı	ı	ı	ı	ı	ı	6.0E+02	3.6E+03	5.6E+05
Silver	0	2.0E+00	1	1	4.0E+00	1	1	ı	1	1	1	1	1	4.0E+00	1	1
1,1,2,2-Tetrachloroethane ^c	0	ı	ı	1.1E+02	ı	ı	5.6E+03	ı	I	ı	1	ı	ı	1	ı	5.6E+03
Tetrachloroethylene ^c	0	ı	ı	8.9E+01	1	ı	4.5E+03	ı	ı	ı	1	ı	ı	ı	ı	4.5E+03
Thallium	0	1	1	6.3E+00	1	ı	3.2E+02	ı	ı	1	1	1	ı	ı	1	3.2E+02
Toluene	0	1	ı	2.0E+05	ı	ı	1.0E+07	ı	ı	ı	ı	ı	ı	ı	ı	1.0E+07
Toxaphene ^c	0	2.1E-01	2.0E-04	7.5E-03	4.2E-01	1.0E-02	3.8E-01	1	ı	ı	ı	1	ı	4.2E-01	1.0E-02	3.8E-01
Tributyltin	0	3.8E-01	1.0E-03	1	7.6E-01	5.1E-02	1	1	1	ı	1	1	1	7.6E-01	5.1E-02	1
1,2,4-Trichlorobenzene	0	ı	ı	9.4E+02	ı	ı	4.8E+04	ı	ı	ı	ı	ı	ı	ı	ı	4.8E+04
1,1,2-Trichloroethane ^c		ı	1	4.2E+02	1	1	2.1E+04	1	1	ı	1	ı	1	1	ı	2.1E+04
Trichloroethylene ^c	0	ı	I	8.1E+02	ı	ı	4.1E+04	I	ı	ı	ľ	ı	ı	ı	1	4.1E+04
2,4,6-Trichlorophenol ^c	0	1	1	6.5E+01	ı	ı	3.3E+03	ı	ı	ı	ı	1	ı	1	ı	3.3E+03
Vinyl Chloride ^C	0	ı	1	6.1E+01	1	1	3.1E+03	1	ı	ı	1	ı	ı	1	ı	3.1E+03
Zinc	0	9.0E+01	9.0E+01 8.1E+01	6.9E+04	1.8E+02	4.1E+03	3.5E+06	ı	1	1	ı	1	1	1.8E+02	4.1E+03	3.5E+06

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- 1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- 2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- 3. Metals measured as Dissolved, unless specified otherwise
- 4. "C" indicates a carcinogenic parameter
- 5. For transition zone waters, spreadsheet prints the lesser of the freshwater and saltwater water quality criteria.
- 6. Regular WLA = (WQC \times WLA multiplier) (WLA multiplier 1)(background conc.)
- 7. Antideg. Baseline = (0.25(WQC background conc.) + background conc.) for acute and chronic
 - 8. Antideg. WLA = (Antideg. Baseline)(WLA multiplier) (WLA multiplier 1)(background conc.) = (0.1(WQC - background conc.) + background conc.) for human health

	Site Specific	
Metal	Target Value (SSTV)	
Antimony	2.2E+05	Note: 0
Arsenic III	5.5E+01	minim
Cadmium	3.2E+01	
Chromium III	#VALUE!	
Chromium VI	8.8E+02	
Copper	7.4E+00	
Lead	1.9E+02	
Mercury	1.4E+00	
Nickel	5.9E+01	
Selenium	2.4E+02	
Silver	1.6E+00	
Zinc	7.2E+01	

	Site Specific	
Metal	Target Value (SSTV)	
Antimony	2.2E+05	Note: do
Arsenic III	5.5E+01	minimum
Cadmium	3.2E+01	
Chromium III	#VALUE!	
Chromium VI	8.8E+02	
Copper	7.4E+00	
Lead	1.9E+02	
Mercury	1.4E+00	
Nickel	5.9E+01	
Selenium	2.4E+02	
Silver	1.6E+00	
Zinc	7.2E+01	

QL's provided in agency guidance not use QL's lower than the

2/14/2008 8:52:46 AM Facility = Christchurch School STP - Rappahannock Chemical = Copper Chronic averaging period = 4 WLAa = 19WLAc = 310Q.L. = 1.6 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 13 Variance = 60.84 C.V. = 0.6 97th percentile daily values = 31.6344 97th percentile 4 day average = 21.6292 97th percentile 30 day average= 15.6786 = 0 # < Q.L. Model used = BPJ Assumptions, type 2 data A limit is needed based on Acute Toxicity Maximum Daily Limit = 19 Average Weekly limit = 19

The data are:

Average Monthly LImit = 19

13

```
2/14/2008 8:55:29 AM
Facility = Christchurch School STP - Rappahannock
Chemical = Lead
Chronic averaging period = 4
WLAa = 480
WLAc = 470
Q.L. = 1
\# samples/mo. = 1
\# samples/wk. = 1
Summary of Statistics:
# observations = 1
Expected Value =
Variance =
C.V.
97th percentile daily values =
97th percentile 4 day average = 21.6292
97th percentile 30 day average= 15.6786
# < Q.L. = 1
Model used =
```

No Limit is required for this material

The data are:

0.26

2/14/2008 8:51:22 AM

Facility = Christchurch School STP - Rappahannock Chemical = Nickel
Chronic averaging period = 4
WLAa = 150
WLAc = 420
Q.L. = 1
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 2.7
Variance = 2.6244
C.V. = 0.6
97th percentile daily values = 6.57022
97th percentile 4 day average = 4.49223
97th percentile 30 day average = 3.25634
< Q.L. = 0</pre>

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

2.7

1/31/2008 11:16:23 AM Facility = Christchurch School STP - Rappahannock Chemical = Dichlorobromomethane Chronic averaging period = 4 WLAa WLAc Q.L. = 5# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 6 Variance = 12.96 C.V. = 0.697th percentile daily values = 14.6005 97th percentile 4 day average = 9.98274 97th percentile 30 day average= 7.23631 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

6

NOTE:

Dichlorobromomethane had been noted in one of the effluent screenings as existing in levels higher than the QL for the specific test used by the permittee's contracted laboratory. According to the Water Quality Standards, no acute or chronic waste load allocations exist for this compound, though a human health standard exists. The test result of 6 μ g/l is higher than the public water supply standard of 5.6 μ g/l, and much lower than the "all other surface waters" category of 23000 μ g/l. A public water supply condition does not exist for the Christchurch School STP, so the test result should be compared to the second category stated above. As a result, limit development for this compound shall not be considered for the purposes of this permit reissuance.

1/31/2008 11:55:53 AM Facility = Christchurch School STP - Rappahannock Chemical = H. Sulfide Chronic averaging period = 4 WLAa WLAc = 100 Q.L. = 500 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 1100 Variance = 435600 C.V. = 0.697th percentile daily values = 2676.75 97th percentile 4 day average = 1830.16 97th percentile 30 day average= 1326.65 # < Q.L. = 0Model used = BPJ Assumptions, type 2 data A limit is needed based on Chronic Toxicity Maximum Daily Limit = 146.257478405323 Average Weekly limit = 146.257478405323 Average Monthly LImit = 146.257478405323

The data are:

1100

Note:

A second data point was requested of the permittee after this STATS evaluation was performed for Hydrogen Sulfide. The test result revealed a concentration below a QL of 50 $\mu g/L$. In lieu of a permit limitation, Hydrogen Sulfide shall be monitored by the permittee to determine if a limit is needed in future reissuances.

1/31/2008 10:53:44 AM

```
Facility = Christchurch School STP - Rappahannock Chemical = Ammonia
Chronic averaging period = 30
WLAa = 3.8
WLAc = 17
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

# observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8544
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data
```

A limit is needed based on Acute Toxicity Maximum Daily Limit = 3.8 Average Weekly limit = 3.8 Average Monthly LImit = 3.8

The data are:

9

1/31/2008 11:21:40 AM

Facility = Christchurch School STP - Rappahannock Chemical = Arsenic Chronic averaging period = 4 WLAa = 140 WLAc = 1800 Q.L. = 20 # samples/mo. = 1 # samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

20

1/31/2008 11:40:01 AM Facility = Christchurch School STP - Rappahannock Chemical = Cyanide Chronic averaging period = 4 WLAa = 2WLAc = 51= 20 O.L. # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 20 = 144 Variance C.V. = 0.697th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 2
Average Weekly limit = 2

Average Weekly limit = 2Average Monthly LImit = 2

The data are:

20

NOTE:

* The permittee's laboratory did not test Cyanide to the QL of 10 μ g/L that is required by DEQ. Instead, the lab calculated a QL of 20 μ g/L. Typically if a pollutant is reported below a QL that is higher than that QL required by DEQ, permitting staff are to take a conservative approach to evaluate whether or not a limit will be required. To do this, the inappropriate QL reported by the permittee or laboratory is treated as the concentration at which the pollutant was detected in the facility's effluent. As a result, the QL used by the laboratory was entered as a data point into STATS v2.0.4 to calculate whether or not a limit will be required.

 $\frac{\mathrm{June}\ 30,\ 2008}{\mathrm{June}\ 30,\ 2008}$ - During the 2008 permit reissuance Public Comment period (May 30, 2008 - June 30, 2008) the permittee requested that the monitoring requirement for Cyanide (1/6 Months, monitoring and reporting only) be removed from the original 2008 draft permit. The permittee provided the results of a second sampling for Cyanide. The test results showed that Cyanide exists at a concentration below the QL that DEQ considers the pollutant to be absent (0.010 mg/L). Therefore, the monitoring requirement for Cyanide has been removed from the permit.

1/31/2008 11:09:25 AM

Facility = Christchurch School STP - Rappahannock Chemical = Chloroform
Chronic averaging period = 4
WLAa =
WLAc =
Q.L. = 10
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 81
Variance = 2361.96
C.V. = 0.6
97th percentile daily values = 197.106
97th percentile 4 day average = 134.767
97th percentile 30 day average = 97.6903
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

81

NOTE:

Chloroform had been noted in one of the effluent screenings as existing in levels higher than the QL for the specific test used by the permittee's contracted laboratory. According to the Water Quality Standards, no acute or chronic waste load allocations exist for this compound, though a human health standard exists. The test result of 81 μ g/l is lower than the public water supply standard of 350 μ g/l, and much lower than the "all other surface waters" category of 1500000 μ g/l. A public water supply condition does not exist for the Christchurch School STP, so the test result should be compared to the second category stated above. As a result, limit development for this compound shall not be considered for the purposes of this permit reissuance.

```
1/31/2008 11:44:00 AM
Facility = Christchurch School STP - Rappahannock
Chemical = Chlorine Prod. Oxidants
Chronic averaging period = 4
WLAa = 26
WLAc = 380
Q.L. = 0.1
\# samples/mo. = 1
\# samples/wk. = 1
Summary of Statistics:
# observations = 1
Expected Value = 20000
Variance = 1440000
C.V. = 0.6
C.V.
97th percentile daily values = 48668.3
97th percentile 4 day average = 33275.8
97th percentile 30 day average= 24121.0
\# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data
A limit is needed based on Acute Toxicity
Maximum Daily Limit = 26
Average Weekly limit = 26
Average Monthly LImit = 26
```

20000

The data are:

2/14/2008 8:50:02 AM

Facility = Christchurch School STP - Rappahannock Chemical = Zinc
Chronic averaging period = 4
WLAa = 180
WLAc = 4100
Q.L. = 16
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 45
Variance = 729
C.V. = 0.6
97th percentile daily values = 109.503
97th percentile 4 day average = 74.8705
97th percentile 30 day average = 54.2723
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

45

1/31/2008 11:37:33 AM

Facility = Christchurch School STP - Rappahannock Chemical = Chromium VI
Chronic averaging period = 4
WLAa = 2200
WLAc = 2600
Q.L. = 4
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 4
Variance = 5.76
C.V. = 0.6
97th percentile daily values = 9.73367
97th percentile 4 day average = 6.65516
97th percentile 30 day average = 4.82421
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

4

Note:

The laboratory reported Total Chromium rather than Trivalent (Cr III) or Hexavalent (Cr VI) Chromium. A Total Chromium concentration incorporates both of these forms of Chromium. As a result, it is safe to assume that the Total Chromium test result concentration will always be higher than the individual forms of Chromium within the same sample. Using a conservative approach in this case, the Total Chromium test result concentration (4 μ g/L) was used in limitation development calculations as the concentration at which Chromium VI existed in the effluent. No limitation was determined to be required for Chromium VI using this number. Chromium III was not calculated to have a any acute, chronic, or human health waste load allocations, therefore, no limitation analysis was conducted for the alternative discharge to the Rappahannock River.

2/14/2008 10:38:06 AM

Facility = Christchurch School STP - Rappahannock Chemical = Cadmium
Chronic averaging period = 4
WLAa = 80
WLAc = 450
Q.L. = 0.001
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = .005
Variance = .000009
C.V. = 0.6
97th percentile daily values = .012167
97th percentile 4 day average = .008318
97th percentile 30 day average = .006030
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data</pre>

No Limit is required for this material

The data are:

0.005

NOTE:

The permittee's laboratory was not able to produce a QL low enough to meet that requested by DEQ staff (0.25 $\mu g/L$) for this constituent. DEQ staff requested that the laboratory report the MDL (method detection limit) for the test method used, and whether or not the constituent was detected at that level. If the constituent would have been detected at the MDL, DEQ staff would use the QL reported by the laboratory as a quantified data point in the limitation evaluation for this facility. In this case, the laboratory reported that the constituent was not detected at the reported MDL, so it was assumed (with at least 99% accuracy) that the constituent did not exist in concentrations exceeding the MDL of 0.005 $\mu g/L$.

2/14/2008 10:52:12 AM

```
Facility = Christchurch School STP - Rappahannock Chemical = Mercury
Chronic averaging period = 4
WLAa = 3.6
WLAc = 48
Q.L. = 0.01
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

# observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average = .241210
```

No Limit is required for this material

Model used = BPJ Assumptions, type 2 data

The data are:

< Q.L. = 0

0.2

2/14/2008 10:53:34 AM Facility = Christchurch School STP - Rappahannock Chemical = Silver Chronic averaging period = 4 WLAa = 4 WLAc = Q.L. = 0.0001# samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = .001 Variance = .000000 = 0.6C.V. 97th percentile daily values = .002433 97th percentile 4 day average = .001663 97th percentile 30 day average= .001206 # < Q.L. = 0

= BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

Model used

0.001

NOTE:

The permittee's laboratory was not able to produce a QL low enough to meet that requested by DEQ staff (0.15 $\mu g/L)$ for this constituent. DEQ staff requested that the laboratory report the MDL (method detection limit) for the test method used, and whether or not the constituent was detected at that level. If the constituent would have been detected at the MDL, DEQ staff would use the QL reported by the laboratory as a quantified data point in the limitation evaluation for this facility. In this case, the laboratory reported that the constituent was not detected at the reported MDL, so it was assumed (with at least 99% accuracy) that the constituent did not exist in concentrations exceeding the MDL of 0.001 $\mu g/L$.

Attachment F

Correspondence with VDH/DSS

Kazio, Jeremy

From: Skiles, Keith (VDH)

Sent: Friday, January 25, 2008 4:56 PM

To: Kazio, Jeremy

Subject: RE: Christchurch School WWTP-VPDES Permit No. VA0024066

Sorry for the delay replying. I wasn't able to find the documentation for Mary's original assessment so I had to do some calculation of my own.

As long as the outfall is at or near the site where the ditch flows into the river, we would not need a change in classification of the area. If it goes off shore or is moved up or downstream, then the size of the closure would not increase but we may need to shift the closure area to accommodate the new outfall site.

If you need a response in the form of a memo, let me know. Have a good weekend.

Keith

From: Kazio, Jeremy [mailto:jskazio@deq.virginia.gov]

Sent: Friday, January 25, 2008 8:40 AM

To: Skiles, Keith (VDH)

Subject: RE: Christchurch School WWTP-VPDES Permit No. VA0024066

Thank you very much, I appreciate your help. If they were to pipe to the Rappahannock, the discharge, I believe, would probably be around the same area that the tributary to which they currently discharge empties into the river. The school owns two lots right on the water, and they are located on both sides of the trib

----Original Message-----From: Skiles, Keith (VDH)

Sent: Thursday, January 24, 2008 4:43 PM

To: Kazio, Jeremy

Subject: RE: Christchurch School WWTP-VPDES Permit No. VA0024066

I will look up the original evaluation that was done years ago, but I imagine that our existing closure was based all or at least most of the discharge making it to the river. If that is true then there would be little or no shellfish impact over what w already have a closure zone based on. I should be able to get back with you tomorrow with that info.

Keith

From: Kazio, Jeremy [mailto:jskazio@deq.virginia.gov]

Sent: Thursday, January 24, 2008 3:45 PM

To: Skiles, Keith (VDH)

Subject: Christchurch School WWTP-VPDES Permit No. VA0024066

Mr. Skiles,

I have a somewhat unique situation that I need your advice on.

I am the permit writer responsible for reissuing the VPDES municipal discharge permit for Christchurch School (Permit No. VA0024066) located in Middlesex County. The wastewater treatment plant has been in operation for while (I am guessing since the early to mid-1980's) and the discharge has always been to a "dry ditch" and located approximately ¼ mile from the Rappahannock River. During the drafting of Christchurch's permit this year, I ended up calculating a limit for Ammonia that was drastically lower than the limit that they've had for so many years. During my manager's review of this draft permit, he noticed this drastic reduction, and began questioning why the conventional pollutant limitations were so high (I don't calculate those) for a dry ditch discharge. As you know, dry-ditch discharges usually incorporate very stringent limitations because of the lack of dilution and a mixing zone. It turns out that before the DEQ Kilmarnock Regional Office closed down earlier this decade, they had been in charge of reissuing the permit for this facility, and their rule was that any dry-ditch discharge within a certain distance from a main river/waterbody was assigned pollutant limitations as if the discharge was directly to the main river/waterbody. So, for as long as they have been in treating their wastewater, the pollutant limitations for Christchurch have been pretty lenient compared to other facilities that discharge to dry ditches.

My manager and the Regional Director now feel obligated to make a correction to the permit for this year's reissuance, but they also feel obligated to give the permittee a couple of options for meeting the new stringent limitations, as the entire treatment plant will need to be replaced. The second option that I was told to incorporate into their permit is to pipe their effluent directly to the Rappahannock River, where limitations MAY be less strict. The latter may also be cheaper for them

I need to know what you need from me in order to make a determination about shellfish use in the area. I do not know exactly where they will discharge, if they choose that option. All I can tell you is that their current discharge is 40,000 gallons per day. Please let me know what I can do in order for you to be able to make a determination about shellfish impact.

Please don't hesitate to call or email me. Thank you very much.

Jeremy S. Kazio Environmental Specialist II VA DEQ Piedmont Regional Office 4949-A Cox Road Glen Allen, VA 23060 Phone: 804/527-5044 Fax: 804/527-5106

"We don't inherit the earth from our ancestors, we borrow it from our children."
- David Brower -



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY PIEDMONT REGIONAL OFFICE

L. Preston Bryant, Jr. Secretary of Natural Resources

4949-A Cox Road, Glen Allen, Virginia 23060 (804) 527-5020 Fax (804) 527-5106 www.deq.virginia.gov

David K. Paylor Director

Gerard Seeley, Jr. Regional Director

JUL 1 8 2008

Dennis Gunn, Superintendent Christchurch School 49 Seahorse Lane Christchurch, VA 23031

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

RE:

VPDES Permit No. VA0024066 Reissuance

Dear Mr. Gunn:

Your VPDES permit is enclosed. This permit supersedes the previous VPDES Permit VA0024066 issued to this facility. A Discharge Monitoring Report (DMR) form is included with the permit. Please make additional copies of the DMR for future use. The first DMR required by this permit for monthly monitored parameters is due on September 10, 2008 for the period August 1, 2008 through August 31, 2008. If you still have DMR data to report as required by the previous permit please submit it as an attachment to the first DMR required by this permit. Monitoring results on the DMRs should be reported to the same number of significant digits as are included in the permit limit for the parameter. Please send DMRs to:

Virginia Department of Environmental Quality Piedmont Regional Office 4949-A Cox Road Glen Allen, VA 23060

Note that DEQ has launched an e-DMR program that allows you to submit the effluent data electronically. If you are interested in participating in this program please visit the following website for details:

http://www.deq.virginia.gov/water/edmrfaq.html

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Alternatively, any owner under §§ 62.1 - 44.16, 62.1 - 44.17, and 62.1 - 44.19 of the State Water Control Law aggrieved by any action of the State Water Control Board taken without a

Permit No.: VA0024066 Issuance Memorandum

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

4949-A Cox Road Glen Allen, VA 23060

804/527-5020

SUBJECT: Reissuance of VPDES Permit No. VA0024066, Christchurch School STP

TO: Curtis J. Linderman, Water Permit Manager

FROM: Jeremy Kazio, Environmental Specialist II

DATE: July 7, 2008

COPIES: OWPS, EPA

<u>Legal Name of Owner</u>: Christchurch School

Application Submitted By: Dennis Gunn, Operations Director

Christchurch School

Application Date: The application was received on April 27, 2007. The application was

considered complete on October 12, 2007.

Type of Discharge: Existing Municipal discharge

Wastewater Treatment Treatment consists of bar screen and communitor, flow equalization, aeration,

clarification, sludge return, chlorination, and dechlorination.

Receiving Stream:

Stream: Unnamed Tributary to Rappahannock River

River Basin: Rappahannock River

River Subbasin: N/A

Outfall 001 Section: 2

Class: III Special Standards: None

OR,

Stream: Rappahannock River River Basin: Rappahannock River

Alternative River Subbasin: N/A

Outfall 002 Section: 1

Class: II Special Standards: a

Public Notice: The application and draft permit were given public notice according to the

VPDES Permit Regulation. A comment was received from the permittee requesting that a monitoring requirement in the draft permit be removed. The request was reviewed and approved by staff, and the draft permit was changed accordingly. One other remark was received during the public comment period opposing the reissuance of this permit. However, no request for a public hearing was made, and the concerned citizen did not request a copy of the

permit nor cite any specific problems with the permit.

Permit No.: VA0024066 Issuance Memorandum

Planning: The discharge is not addressed in any planning document but will be included

when the plan is updated.

EPA Comments: EPA has waived the right to comment and/or object to the adequacy of the

permit.

VDH Comments: By letter received July 16, 2007, the Virginia Department of Health stated that

they had no objections to the permit.

Previous Board Action: The A Special Order was issued by the Board on June 2, 1978 requiring the

facility to comply with secondary effluent limitations. The requirements of the Special Order were satisfied at the time of the June 30, 1987 permit reissuance period. As a result of failure to comply with permit effluent limitations, a Consent Special Order was issued on August 13, 1991, requiring the facility to submit plans, specifications, and a schedule for the upgrade of the wastewater treatment system. On September 27, 1993 a Certificate to Construct was issued, and on December 1, 1994 a Certificate to Operate was issued for the upgraded wastewater treatment system. On September 19, 1994, the Consent Special

Order was cancelled.

Staff Comments: This permit reissuance is non-controversial. The staff believes that the

attached effluent limitations will maintain the Water Quality Standards adopted

by the Board.

Permit maintenance fees were last paid on October 02, 2007.

The permit was issued on September 15, 2002 and expired on September 14,

2007.

Basis for Effluent Limits: SWCB Water Quality Standards, Best Engineering Judgement, Federal Effluent

Guidlelines

Licensed Operator

Requirements:

The staff believes that a Class IV operator is required.

Staff Recommendations: The staff recommends that the Director:

Approve the attached effluent limitations and monitoring requirements.

2. Issue VPDES Permit No. VA0024066

APPROVED: <

Water Permit Manager

DATE:

7/9/18

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Christchurch Scho	ol STP			
NPDES Permit Number:	VA0024066				
Permit Writer Name:	Jeremy Kazio				
Date:	August 23, 2007				
Major []	Minor [X]	Industrial []	Muni	cipal []	X]
I.A. Draft Permit Package Su	ıbmittal Includes:		Yes	No	N/A
1. Permit Application?			Х		
Complete Draft Permit (for including boilerplate inform		permit – entire permit,	х		
3. Copy of Public Notice?				X	
4. Complete Fact Sheet?			X		
5. A Priority Pollutant Screeni	ng to determine par	ameters of concern?	Х		
6. A Reasonable Potential an	alysis showing calc	ulated WQBELs?	Х		
7. Dissolved Oxygen calculat	ions?			X	
8. Whole Effluent Toxicity Te	st summary and ana	alysis?			Х
9. Permit Rating Sheet for ne	w or modified indus	trial facilities?			Х
I.B. Permit/Facility Characte	ristics		Yes	No	N/A
1. Is this a new or currently u	npermitted facility?			X	
Are all permissible outfalls process water and storm w authorized in the permit?	,		х		
3. Does the fact sheet or per treatment process?	mit contain a descri	ption of the wastewater	X		

I.B	. Permit/Facility Characteristics – cont.	Yes	No	N/A
4.	Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5.	Has there been any change in streamflow characteristics since the last permit was developed?		X	
6.	Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7.	Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8.	Does the facility discharge to a 303(d) listed water?		Χ	
	a. Has a TMDL been developed and approved by EPA for the impaired water?			Х
	b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			Х
	c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			Х
9.	Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10	. Does the permit authorize discharges of storm water?		X	
11	. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		Х	
12	. Are there any production-based, technology-based effluent limits in the permit?	Х		
13	. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14	. Are any WQBELs based on an interpretation of narrative criteria?		Х	
15	. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		Х	
16	. Does the permit contain a compliance schedule for any limit or condition?	Х		
17	. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		Х	
18	. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	Х		
19	. Is there any indication that there is significant public interest in the permit action proposed for this facility?		Х	
20	. Have previous permit, application, and fact sheet been examined?	Х		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record <u>only</u> for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
 Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)? 	Х		
Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	х		

II.B. Effluent Limits – General Elements		Yes	No	N/A
1.	Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	х		
2.	Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	х		

II.C	C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1.	Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	Х		
2.	Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	х		
	a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			х
3.	Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	Х		
4.	Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	Х		
5.	Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		х	
	a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			х

11.1	D. Water Quality-Based Effluent Limits	Yes	No	N/A
1.	Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	х		
2.	Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?		Х	

II.D. Water Quality-Based Effluent Limits – cont.				N/A
Does the fact sheet provide effluent characteristics for each outfall?				
4.	Does the fact sheet document that a "reasonable potential" evaluation was performed?	Х		
	a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	х		
	b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	Х		
	c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	Х		
	d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?		Х	
	e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	Х		
5.	Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	Х		
6.	For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	Х		
7.	Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	х		
8.	Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	х		

II.E. Monitoring and Reporting Requirements		No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	х		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?	e		х
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	х		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		х	
4. Does the permit require testing for Whole Effluent Toxicity?		Х	

II.F. Special Conditions		No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	Х		
2. Does the permit include appropriate storm water program requirements?			Х

II.F. Special Conditions – cont.		Yes	No	N/A		
3.	If the permit contains compliance sche statutory and regulatory deadlines and		vith	х		
4.	Are other special conditions (e.g., amb BMPs, special studies) consistent with			х		
5.	Does the permit allow/authorize discharate other than the POTW outfall(s) or CSC (SSOs) or treatment plant bypasses]?				х	
6.	Does the permit authorize discharges (CSOs)?	from Combined Sewer Overf	lows		Х	
	a. Does the permit require implementa	tion of the "Nine Minimum Co	ontrols"?			Х
	b. Does the permit require development Control Plan"?	nt and implementation of a "L	ong Term			х
	c. Does the permit require monitoring	and reporting for CSO events	?			Х
7.	Does the permit include appropriate P	retreatment Program require	ments?			Х
11.0	G. Standard Conditions			Yes	No	N/A
1.	Does the permit contain all 40 CFR 1. equivalent (or more stringent) condition		the State	х		
Li	st of Standard Conditions – 40 CFR 1	22.41				
Du	ity to comply Prop	erty rights	Reporting Red	quirem	ents	

Duty to comply Duty to reapply Need to halt or reduce activity not a defense Property rights Duty to provide in Inspections and Monitoring and re-

Duty to mitigate
Proper O & M
Permit actions

Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset

Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2.	Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	х	
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Part II. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Jeremy Kazio	
Title	Environmental Specialist II	
Signature	Je Ospio	
Date	August 23, 2007	